

• DECEMBER 1958

BUTANE-PROPANE

A CHILTON PUBLICATION

News

Small Town Dealer,
BIG INDUSTRIAL LOAD

Stop Losing
Metered Gas

HEADQUARTERS FOR L.P. GAS INFORMATION SINCE 1931



*Season's
Greetings*

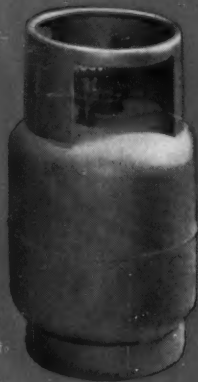
WARREN PETROLEUM CORPORATION

TULSA, OKLAHOMA

Full Hackney line helps you sell more lift truck cylinder service



Model H-14LV
14-pound cap.;
horizontal mounting



Model V-20L
20-pound cap.;
vertical mounting



Model H-33L
33 1/2-pound cap.;
horizontal mounting



Model H-43L
43 1/2-pound cap.;
horizontal mounting

Four capacities...20 models for any size truck...all service conditions

For all lift truck conversion prospects...for servicing your present lift truck LP-Gas customers, Hackney offers you more selling and servicing advantages.

Heart of Hackney service to you and your customers is its complete line. With a choice of 20 models in four capacities, you can install the right cylinder for any make or size of truck...part-time or continuous operation...any refueling method...horizontal or vertical installation...replaceable or permanent

mounting...liquid or vapor service.

Hackney LP-Gas Cylinders are strongly made, safe, lightweight, uniform. New smooth-grip, double-curl handle for easy, safe handling. Complete stocks of popular sizes and models are quickly available from Milwaukee, Wis., and Downingtown, Pa. (near Philadelphia).

Write for a list of recommended Hackney Cylinders—as established by lift truck manufacturers.



Pressed Steel Tank Company

Manufacturer of Hackney Products

1487 South 66th Street, Milwaukee 14, Wisconsin

Branch offices in principal cities



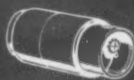
cylinders



systems



fuel tanks for
trucks and tractors



lift truck tanks



tank trucks



bulk storage tanks

LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS



FOR MODERNIZING AN LP-GAS OPERATION **METERING HAS GOT IT!**

To stay ahead in today's competitive fuel race, LP-Gas distributors must take steps to make their service more modern, more attractive and, of course, more profitable. Metering represents the one most important medium by which to attract and hold customers and up-grade profits.

ROCKWELL METERS SAVE MONEY, MAKE MONEY IN ALL THESE IMPORTANT WAYS

REDUCE DISTRIBUTION COSTS

With meters you can streamline your routing; cut out expensive call-backs and emergency deliveries. Fills are made at your convenience. And metering increases the gallonage delivered per truck mile while decreasing the cost of gas, tires, maintenance and driver's time.

INCREASE STORAGE CAPACITY

With metering you can use customers' tanks anytime to increase your storage capacity; to improve Summer-Winter ratio; to take advantage of favorable fuel prices.

REDUCE ACCOUNTS RECEIVABLE

Meters build confidence in the minds of your customers and therefore in their willingness to pay. The customer has proof positive of his gas usage. Smaller metered bills are much easier to collect than bulk loads. And your accounting can be made more systematic.



The full facts about all the advantages of metering both from the customer's and distributor's viewpoint are spelled out in this brochure. For your FREE copy and samples of Rockwell dealer aids:

CLIP COUPON—MAIL TODAY

**Rockwell Manufacturing Company
Pittsburgh 8, Pa.**

Gentlemen:

Please send me your booklet "Go Modern, Go Metering"—also a complete assortment of dealer aids.

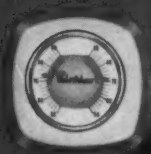
Your Name _____

Company _____

Street _____

City _____ Zone _____ State _____





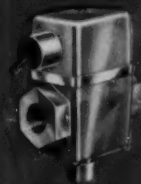
TR 125
WALL THERMOSTAT

"Fashion-right," detachable ring for painting... easy-to-read double dial, snap-action switch completely enclosed... adjustable heat anticipation, no leveling to install.



FAN AND LIMIT 400

Single element operation. Sturdier, simpler... provides positive fan and limit switching. Economical to apply. "Fan-on" contact made prior to limit switch cut out for longer life.



SOLENOID
GAS VALVE

For all types of gas heating equipment, ruggedly constructed... corrosion resistant parts suitable for use even with "sour" gases. Easily cleaned and serviced.

ROBERTSHAW reliability

...runs rings
around other
central heating
controls and
accessories

Let us prove it! Let our representative show you conclusive proof... testimonials of "over the years" reliability in the performance of Robertshaw water heater, space heater and central heating controls!

Write today — contact:

Robertshaw-Fulton
CONTROLS COMPANY



GRAYSON CONTROLS DIVISION
LONG BEACH, CALIFORNIA

advertised in Good Housekeeping, Sunset
American Home, Saturday Evening Post



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DECEMBER 1958

BUTANE-PROPANE *News*

Volume 20-Number 12

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**AN INDUSTRY
FIRST! FOR SMALL
UNVENTED ROOM
HEATERS, RECESSED
WALL HEATERS,
THROUGH-THE-
WALL HEATERS!**

*New
of*



**For manual operation—C590 Gas Cock Pilotstat[®]—
with or without pressure regulator.** You get depend-
able 3-position gas cock automatic pilot safety.
And, as with all these Honeywell low-priced con-
trols, the pressure regulator is located *properly* in
the gas stream to provide maximum flexibility for
all types of installation.

[®]Trademark

Honeywell line low-priced controls



For self-contained thermostat operation, V5150—**with or without pressure regulator.** Features snap-action remote bulb thermostat. The V5150 is specifically designed for lower capacity heaters, as is the complete line of controls illustrated. All contain Honeywell quality components; all are competitively priced.

For complete information on Honeywell's low-priced line of heating appliance controls or Honeywell's complete control line, call your local Honeywell office. Or, write Honeywell, Dept. BN-12-166, Minneapolis 8, Minnesota.



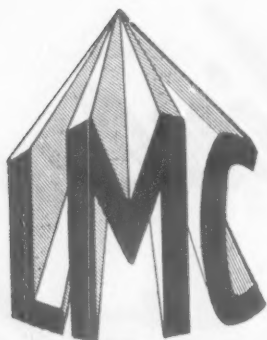
For wall-mounted thermostat operation, V8149—**with or without pressure regulator.** This precision-engineered gas control is operated by 24-volt wall-mounted thermostat (ideally, the popular T-86 Honeywell Round). All of Honeywell's low-priced controls can be easily serviced in the field.

Honeywell



First in Control

IN HEATING APPLIANCES YOU HAVE MORE TO SELL WHEN YOU SELL HONEYWELL



FROM ANY VIEWPOINT

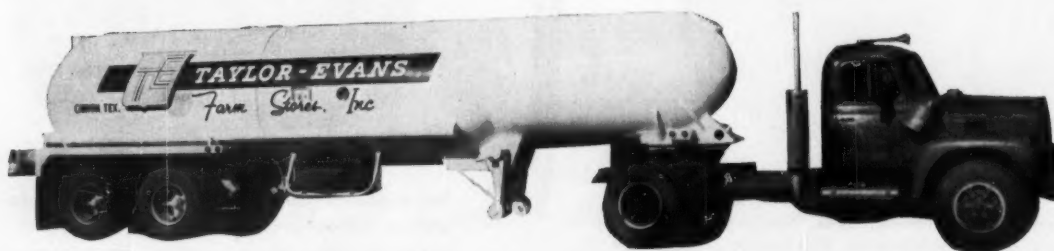
LMC Transports offer you more

Year after year, more and more LPG dealers have given LMC products the strongest possible recommendation . . . that of re-ordering additional units after carefully checking the performance of their first LMC tank.

From small units, for home delivery on the Plains, to 10,000 gallon transport tanks to haul loads in steep mountains LMC has pioneered many changes which are now standard features on all transport tanks.

Many dealers who started with one single barrel LMC home delivery unit are now operating fleets of transport tanks, all engineered for economy by Lubbock Machine.

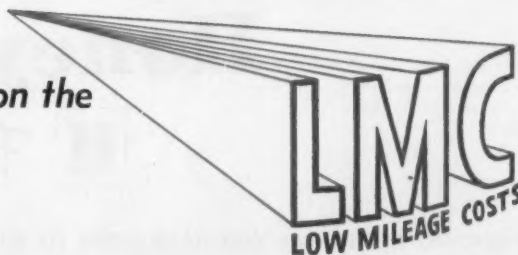
Write, wire, or phone today! Find out how easy it is to purchase on the Budget Plan or the LMC Lease-Purchase Plan.



LUBBOCK MACHINE & SUPPLY CO.



Buy on the



Box 1589 PO 2-5261
LUBBOCK, TEXAS

Budget or Lease-Purchase Plan

**BPN**

Letters

Operation cost gives gas edge over oil

Florida

We are quoting on a job wherein the owner desires the use of oil for water heating. Numerous attempts have been made to show an initial cost advantage for L. P. gas. However, the operational cost is of most concern. We are quoting a letter sent to the Oil Institute wherein the two costs are outlined by the builder so as to get an "opinion of advantage." We would appreciate a similar written outline on the L. P. gas vs. oil for water heating operation.

Quote from builder's letter: "We are in course of completing a 45 unit apartment house in the city of Miami. Our plans call for a central hot water system and are undecided as to whether we should use oil or gas for heating the water from a money saving angle. We would appreciate your opinion in this matter. The price of L. P. gas 16 cents per gal. (Btu 91,686) straight propane; the price of oil 15.4 cents per gal. (Btu 150,000) No. 2 oil."

We would sincerely appreciate your prompt consideration of this request and any other data related to this water heating problem.

K. C. K.

Replying to your inquiry for operating cost data on 16 cents L.P. gas vs. 15.4 cents No. 2 heating oil in heating water for a 45 unit apartment house, we have not been able to locate a direct cost comparison with central water heating plants of comparable size.

Based on experience in other types of service involving intermittent firing under boilers and in major heating applications, we can offer the following information: No. 2 fuel oil is generally rated at 140,000 Btu per gal. 91,686, as quoted in your customer's letter, is a good average for commercial propane. We generally

use 91,600 for easy figuring. However, the Btu content per gallon is not a true index of the relative value of the two fuels for any kind of heating. What really counts is "how many of these Btu's can be utilized in the heating job."

All of the information we have been able to obtain indicates that propane is approximately 40 per cent more efficient than oil in services involving intermittent firing.

The direct cost of fuel will be almost exactly the same. The service cost of maintaining the burner and firebox will add approximately 1 cent per gal. to the cost of using oil, and if this maintenance is not provided the progressive loss of efficiency will be even greater. The propane burner does not require these high service costs. Also, the cost of electric power to operate the atomizer of the oil burner will approximate another 1 cent per gal. The propane burner does not require any electric power for operation. In case of a power failure, the oil burner is out of business until electric service is restored. The gas burner will provide continuous service during these periods.

For the above reasons, we believe that your prospect will be able to save money and render more continuous and satisfactory service to his tenants if he heats his water with propane instead of fuel oil.

There is also the saving in original investment to be considered, and this can be quite important. You probably have the figures on that.—Ed.



Elevation affects measurements of gases

Montana

We have a customer who is heating a tourist court of 10 cabins with propane. His total maximum load will run at 300,000 Btu per hour. We have sized the lines so

that the maximum pressure drop on the end of the line is not more than .5 of an inch water column with the full load. The system is serviced with a 1000 gal. propane plant.

We have been delivering him his propane, and charging him according to the reading of the percentage gauge on the 1000 gal. plant. In fact, that is the way we have been making all of our deliveries.

Evidently he wasn't satisfied with the method we have been using to determine the amount of gas delivered, as some time ago he asked us to put a meter on the line and read it once a month and bill him accordingly.

About a month ago we installed the meter for him with a gallonage index. At the time of the meter installation we read the tank and gave him credit for the amount of gas left, so that from that time the gas in the plant was ours.

When we read the meter the first of the month we found the meter showed that more gas had been used than we had delivered to the tank, according to the readings taken from the percentage gauge on the tank. This difference ran to between 100 and 150 gal. Naturally the customer was unhappy.

My question is, how are we to account for the difference between the meter reading and the percentage gauge to our customer?

We have known that the customer gets the advantage anytime the temperature is below 60° F. We also knew that the percentage gauge is not accurate down to the gallon, but we have been careful in our readings not to cheat the customer. However, there shouldn't be enough difference to account for the difference of from 100 to 150 gal. the meter showed.

E. J. S.

There are two factors which may have considerable bearing on the discrepancies which you are encountering between the gauged quantities in

DON'T UNDERESTIMATE

THE POWER OF THIS

METALBESTOS SEAL!



**Now he can get a full night's sleep...
thanks to the Metalbestos "Safety System"**

"Midnight call-backs" used to cheat this installer out of a full night's rest. He's relaxed now, though, knowing that the "Safety System" protects him... and his customers... from these consequences of faulty gas venting:

- * "False leaks" that are actually vent condensation
- * Stale, polluted air from draft hood spillage
- * Pilot failure resulting from carbon-dioxide-loaded vent gases

The Metalbestos "Safety System" puts a permanent end to all these after-hour complaints... because draft hood spillage and condensation are impossible when an all-Metalbestos vent is designed and installed according to the Metalbestos "Safety System" Gas Vent Tables.

Learn how the Metalbestos Gas Vent Tables simplify installations... maintain your quality reputation by eliminating wasteful "call-backs." Write Dept. M-12.

Stocked by principal distributors in major cities. Factory warehouses in

Akron, Atlanta,
Chicago, Dallas,
Des Moines,
Los Angeles,
New Orleans,
Woodbridge, N. J.



METALBESTOS

DIVISION

WILLIAM WALLACE COMPANY - BELMONT, CALIF.

the storage vessel and the metered gas.

1. What factor has been used by the meter manufacturer in determining the gear ratio to convert cubic feet to gallons? A gallon of propane will produce about 36.45 cu ft of propane vapors, when the vapors are measured at 60°F and 14.7 lb per sq in. absolute pressure (0 lb gauge pressure). Often the factor used in establishing the gear ratio is less than 36.45 which would cause the meter to record high when propane is used. Write to the meter company (including the serial number of the meter), and ask how many feet of vapor passing through the meter will record a gallon on the meter dial. You can then determine the approximate error due to this source of discrepancy.

2. According to the atlas we have available, your town is at an elevation of about 3500 ft above sea level. As you know, the air becomes rarefied at higher elevations. The same applies to L. P. gas in the vapor form. This means that the 36.45 cu ft of propane from a gallon of liquid when measured at sea level would expand until it occupied about 41.5 cu ft at 3500-ft elevation and 42.3 cu ft at 4000-ft elevation. Meters are constructed to measure the volume of gas which passes through them without regard to pressure (unless they are provided with pressure correction equipment). Therefore, the meter again records high because of the expanded gas which passes through it. The meter company can probably furnish you the proper correction factor if you advise them the exact elevation of the meter.—Ed.



**Will atomic reactors
make LPG obsolete?**

Pennsylvania

Our high school science teacher has been talking quite a lot about the great economies which atomic reactors will make in producing electricity. He seems to think this cheap power of the future will make L. P. gas obsolete. What are the facts as of today, and what is likely to develop in the future?

B. C. S.

All the reports that we have seen to date show that the present cost of producing electricity with atomic heat is higher than the cost with waterpower or fuel. Presumably some time in the future the atomic-pro-

**TO PLAN
YOUR ORDERS
ORDER BY PLAN**

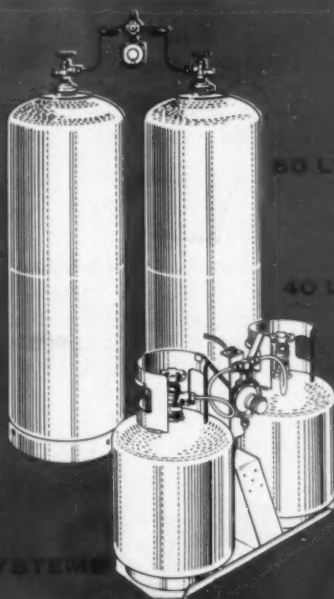


100 LB.

50 LB.

40 LB.

20 LB. SYSTEMS



WEATHERHEAD *Package Plan*



new
551
Weatherhead
LP-Gem
regulator



...now featured
with
Weatherhead
Package Plan

Progressive dealers everywhere are learning that the Weatherhead Package Plan means real purchasing efficiency. And Weatherhead delivers quickly, where and when you want them. Just one order . . . for cylinders, regulators, valves, fittings — complete changeover assemblies from a reliable single source WEATHERHEAD.

Weatherhead cylinders are of rugged 2-piece construction for maximum strength and longer service life. The 21001 extra fast fill cylinder valves have easy turning handwheels for more perfect shut-off — more positive lift opening.

. . . ask about the 551 Regulator merchandising program featuring personalized dealer decals FREE OF CHARGE with minimum orders of 250.

**WARRANTY
PROTECTION ON
ALL WEATHERHEAD
LP-GAS PRODUCTS**



THE WEATHERHEAD COMPANY

LP-Gas Equipment Division

CLEVELAND, OHIO

The Weatherhead Co. of Canada Ltd., St. Thomas, Ont., Canada.
Export Division - Cleveland Ohio - Cable Address: WEATHCO

Your One Complete Source of LP-Gas Equipment



HOLIDAY



GREETINGS

The Weatherhead

Company takes this
opportunity to extend
all good wishes for
Christmas and the
New Year
to its many friends in
the LP-Gas Industry.

Look ahead to...

Leadership
LP *rofit*
G *rowth*

WITH WEATHERHEAD

duced electricity will be cheaper. But don't let that worry you.

The cost of producing the electricity is only a small fraction of the cost of delivering it to your customers' homes. The average cost of domestic electricity throughout the nation is close to 2½ cents per kwh. The cost of producing that kwh in any modern fuel-operated steam plant is just about ¼ cent. Atomic energy will affect only the production cost—not the cost of getting electricity from the generator to the consumer.

Suppose that all of our electric plants could suddenly be equipped with atomic-powered generators that

would cut the production cost in half. That would still be only ½ cent reduction in the cost of putting the electricity into the consumers' homes. Let's forget atomic power and go back to selling L. P. gas.—Ed.



Cooking molasses with propane

Missouri

A customer of ours wishes to produce molasses from a tank 120 in. long, 33 in. wide and 10 in. high.

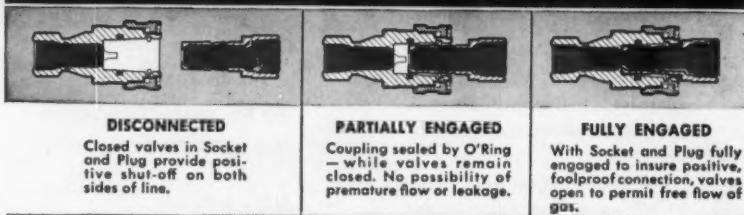
Eliminates
Hazard
of Leakage
or Spillage



APPROVED BY
UNDERWRITERS'
LABORATORIES

3-GRL1621
QUICK-CONNECTIVE
COUPLING

For L. P. Gas Line Connections



Specifically designed for L.P. gas line connections, Hansen GRL Couplings completely eliminate the hazard and annoyance of leakage or spillage of gas. To connect (no tools required), you merely push the Plug into the Socket — all the way. To disconnect, just turn sleeve — Coupling instantly and automatically shuts off both ends of line.

Sockets available with ¼" female pipe threads. Plugs available with ⅜" female pipe threads.

Write for descriptive literature

SINCE 1913

THE HANSEN

4031 WEST 150th STREET • CLEVELAND 35, OHIO

QUICK-CONNECTIVE FLUID LINE COUPLINGS

MANUFACTURING COMPANY

He wishes to fire the front half of the tank with propane gas and he would like to know what size burner would be required to heat the cane juice as quickly as possible without burning or scorching.

J.L.L.

The pan, if filled within an inch of the top to start with would hold about 155 gal. or over 1310 lb because the juice is heavier than water. It will require about 205,000 Btu to raise the juice temperature from 60 deg F to boiling. It would require about 650,000 Btu to evaporate ½ of the juice or 77 gal.

If your customer wanted to accomplish this in an hour, a 1,000,000 Btu per hour (or little larger) burner will be required. This may be too fast and will cause the molasses to scorch. A 500,000 Btu input per hour burner (about 400,000 Btu per hour to liquid) will require a good half hour to raise the temperature of the juice to the boiling point and will evaporate about 50 gal. per hour.—Ed.



Unit for cooling with transports

Louisiana

Please advise if you know any manufacturers of an L. P. gas refrigeration unit used in the cooling of milk on milk tank transports.

C. C. C.

We do not know of a company which manufactures a refrigeration unit for the cooling of milk in milk transports. Most milk transports are well insulated and carry the pre-cooled milk.

However, "Transcold Corp.," 3211 Hooper, Los Angeles, states it has units which can cool the fluid to 38°, or below, and hold that temperature.—Ed.



Longer cutting time with propane-oxygen

Canada

I am inquiring regarding the claim that a greater length of time is required to cut ¾ in. and 1 in. diameter steel stay bolts with propane-oxygen torch cutting, than with acetylene and oxygen.



Handsone new Convention Hall at Virginia Beach is heated and air-conditioned with LP-Gas. American 80B Ironcase Meter, with Reliance type HPH Regulator, measures the gas that keeps conventions and large meetings comfortable all year 'round. LP-Gas cooking facilities are also being installed in the municipally-built hall.



AMERICAN® LP-GAS METERS BUILD LOADS FOR...

VIRGINIA BEACH GAS CORPORATION
COMPLETE METERED GAS SERVICE



Using the most up-to-date LP-Gas distribution methods, progressive Virginia Beach Gas Corporation brings its customers completely convenient gas service. Virginia Beach Gas Corp. serves the city of Virginia Beach. Its sister company, Beach Gas Corporation, distributes bottled gas to the suburban area near Virginia Beach. Together, the two companies serve 2500 customers — all residential or commercial.

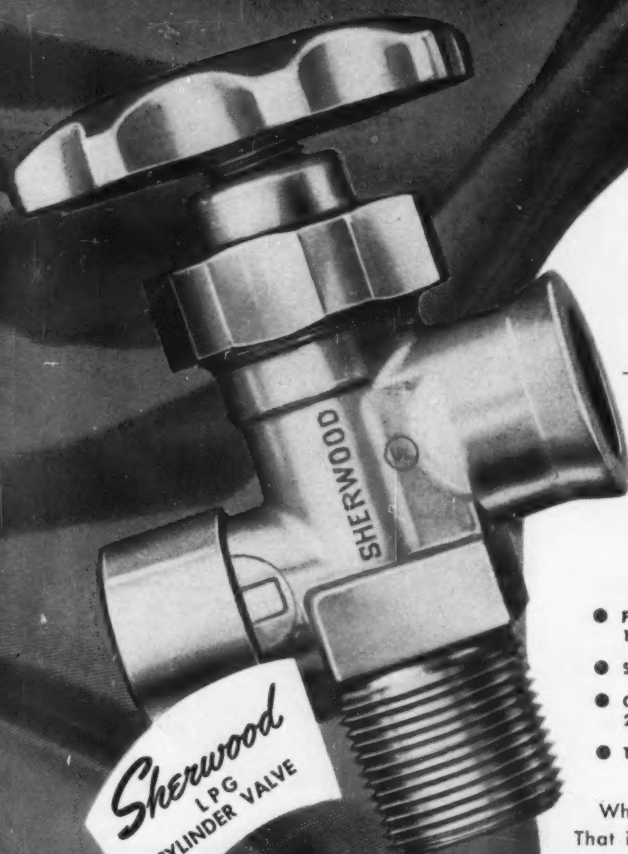
Virginia Beach Gas Corporation's customers have rewarded the company's superior service by continually increasing their loads, helping the company grow and prosper.

AMERICAN®
METER COMPANY
INCORPORATED ESTABLISHED 1920



Attractive, lightweight Aluminumcase Meters bring "city-type" gas service to Virginia Beach, Virginia. AL-110 meters build customer confidence throughout Virginia Beach Gas Company's 26 miles of distribution lines within the city. The company distributes about 800,000 gallons of propane each year through underground gas mains.

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Birmingham • Boston • Chicago • Dallas • Denver • Erie • Houston • Kansas City • Los Angeles
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SUPPLIERS TO THE GAS INDUSTRY for Ironcase, Tinned Steelcase, Aluminumcase, and Welded
Steelcase Meters • American-Westcott Orifice Meters • Instruments • Reliance Regulators
Apparatus • Valves



Here's the
FASTEST
FILLING

METALLIC DIAPHRAGM

LPG VALVE

- Filling capacity exceeds 25 gallons per minute at 100 PSI pressure drop across valve
- Safety device discharges 700 CFM at 480 PSI.
- Can be used on LPG cylinders up to and including 200# capacity.
- The most rugged forging in the industry.

When you speak of speed say Sherwood ! That is if you're referring to speed in filling, for the Sherwood bigger and longer lasting metallic diaphragms top them all ! The diaphragms are made of flexible high tensile premium alloys, impervious to LPG, atmospheric and temperature conditions.

Added to this feature is a new CG 7 or 8 relief valve, with specially formulated rubber seat, which discharges 700 CFM of LPG at 480 PSI inlet pressure. Tested under actual fire conditions, witnessed and approved by The Bureau of Explosives. Smooth operating features and more rugged construction combine with fast delivery and interesting price to prompt your invitation to us to quote on your next valve requirement.

WRITE FOR ILLUSTRATED FOLDER a six page catalog
of our LPG line.

Distributor territories still available in some
areas. Write for details.



Sherwood Valve **DIVISION**
ALUMINUM AND BRASS CO., INC. LOCKPORT, N. Y.

Statement required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) showing the ownership, management, and circulation of BUTANE-PROPANE News, published monthly at Philadelphia, Pa., for December, 1958.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Frank M. Chapman, 198 S. Alvarado St., Los Angeles 57, Calif.

Editor, William W. Clark, 198 S. Alvarado St., Los Angeles 57, Calif.

Managing Editor, Martin A. Brower, 198 S. Alvarado St., Los Angeles 57, Calif.

Business Manager, Frank M. Chapman, same.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Chilton Company, Chestnut and 56th Streets, Philadelphia 39, Pa.

Holders of more than 1 per cent of the capital stock outstanding of Chilton Company: Mary M. Acton, 260 Sycamore Avenue, Merion Station, Pa.; George C. Busby, 2 East Sunset Avenue, Chestnut Hill, Pa.; Mrs. Beulah Fahrendorf, Chateau LaFayette, Scarsdale, New York; Dorothy S. Johnson, Route 1, Putnam Valley, New York; Kimberton Hills Farms, Inc., 1608 Walnut Street, Philadelphia, Pa.; Mabel P. Myrin, 1608 Walnut, Philadelphia, Pa.; Mary M. Acton and John Blair Moffett, Trustees U/W of Clarence A. Musselman, Deceased, 1608 Walnut Street, Philadelphia, Pa.; Beneficiaries: Mary M. Acton and David Acton; J. Howard Pew, 1608 Walnut Street, Philadelphia, Pa.; J. N. Pew, Jr., 1608 Walnut Street, Philadelphia, Pa.; Mary Ethel Pew, 1608 Walnut Street, Philadelphia, Pa.; Alberta C. Sly, 149-40 35th Avenue, Flushing, New York; Alberta C. Sly, Executrix U/W of Frederick S. Sly, Deceased, 149-40 35th Avenue, Flushing N. Y.; Beneficiaries: Albert C. Sly, Alberta C. Sly and John E. Sly; Soleil Farms, Inc., 1608 Walnut Street, Philadelphia, Pa.; Charlotte M. Terhune, 160 E. 48th Street, New York, New York.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semi-weekly, and triweekly newspapers only.)

FRANK M. CHAPMAN, Publisher

Sworn to and subscribed before me this 11th day of September, 1958.

James Thornburn

(My commission expires June 5, 1959.)
(Seal)

I would appreciate any information you may have concerning this matter.

T.A.

It is true that a greater length of time may be required to cut small diameter rods and similar small cross section materials with propane-oxygen than with acetylene and oxygen.

It is necessary to heat the steel to the ignition temperature before it will burn or cut with the oxygen jet. This preheat period is a little longer for propane-acetylene because of certain combustion principles.

Small cross section materials have a greater preheat to cutting time ratio and therefore the difference is noticeable. On large cross section materials the preheat time is a small portion of the cutting time. Also, on large sections advantages of propane-oxygen are accrued with propane-oxygen cutting which far offset the small difference in preheat time.—Ed.



When exhaust fan is not needed

California

We have a customer interested in the installation of a 120,000 Btu floor furnace, the installation to be made beneath the floor, replacing an oil-fired gravity type furnace. The existing pit is approximately 7 ft x 7 ft x 6 ft deep.

We realize an installation of this type should have an exhaust fan, and we were wondering if you could give us information on how large a blower and duct this type of installation would necessitate.

J.E.C.

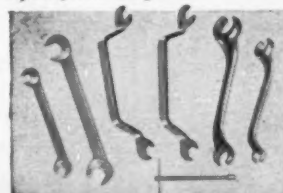
We do not agree that an exhaust fan is required, providing there is adequate natural ventilation to the area. There should be sufficient vent area to permit the furnace to obtain adequate air for combustion. One square inch of vent opening should be provided for every 1000 Btu of burner capacity. In the case you mention, at least 720 sq. in. of vent space for air inlet to the burner should be provided. Considerable more area should be provided for free ventilation.

The furnace should be provided with proper vents, draft diverters and draft hood to properly remove the products of combustion and should be provided with 100 per cent safety shut-off for the burner and the pilot. Ed.



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FOR FLARED FITTING RANGES—seven wrenches are packed in Polyethylene Bag



GRIFFOAM LEAK DETECTOR



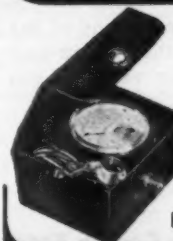
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NO BRUSH REQUIRED



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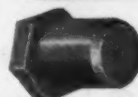
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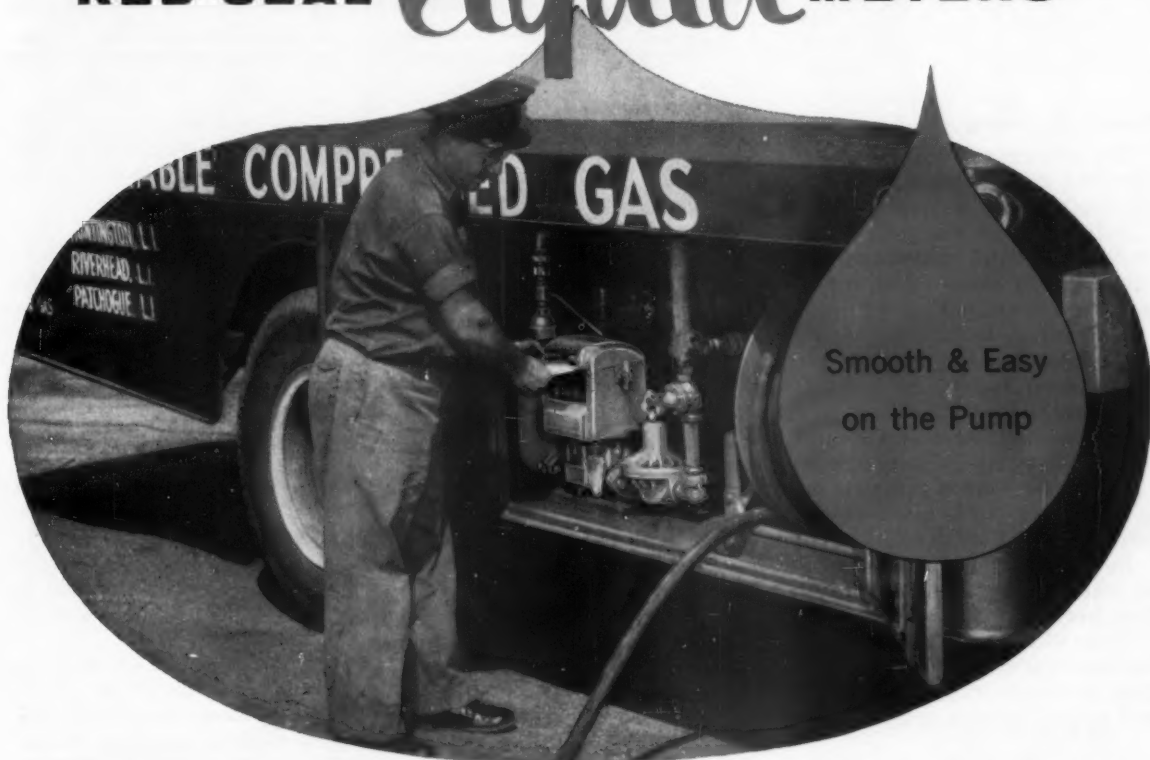
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RED SEAL

Liquid

METERS



That's all there is to it! It's a complete fully approved metering system in one neat, easy-to-install "compact"

Big feature of all three Neptune LP-Gas "compact" meters is the teamwork of differential pressure valve and vapor eliminator to permit faster deliveries without straining your pumps.

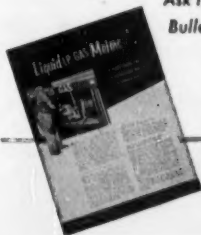
Here's how it works: The differential valve maintains pressure so LP-gas cannot flash into vapor inside the meter... even when filling into low-pressure empty tanks. This pressure also helps the vapor eliminator vent any vapor that may be in the line ahead of the meter. Because of its ample settling capacity and large area vent valve, the Neptune eliminator operates efficiently with extremely low differential pressure. Under normal delivery conditions the pressure in the system is

sufficient to prevent vaporization, and the Neptune valve opens wide. It's a truly effective system that's always easy on your pumps!

The Neptune differential valve never needs adjusting from hot weather to cold. In fact, it has no adjusting screw, so it's fool-proof!

These are important reasons why Red Seal meters are preferred by LP-Gas dealers from coast to coast. Safe high pressure casings. Listed by Underwriters' Laboratory for LP-Gas service. Sizes 1¼", 1½", and 2" for tank trucks, transports and bulk plants. Choice of ticket-printing or direct reading registers.

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Liquid

METERS



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Canadian Factory: NEPTUNE METERS LTD., Toronto 14, Ont.

By NEIL REGEIMBAL

Washington Editor



BPN

Washington Report

From BUTANE-PROPANE News Washington Bureau

Record Christmas sales expected this year

The consuming public should be well into a new spending splurge which is expected by top government economists to lead to record Christmas sales.

Indications are that the recession fears which last spring held down consumer purchases, even among families with ample funds, began to wash away as early as August.

A six-month drop in outstanding consumer installment credit was reversed in August. After allowing for seasonal factors, the outstanding total of time payments rose by \$30 million, to a total of \$33.2 billion. Non-installment debt rose by \$116 million, for a total of all types of consumer debt of \$43.2 billion.

The turn-around in consumer debt meant that consumers were losing recession-induced jitters and were again willing to spend more.

In some previous months, consumers had repaid as much as \$180 million more on their debts than they had spent in new debt.

Thus, while credit was not as strong a selling tool as is normally the case this spring, it should again help merchants ring up near-record sales this fall and winter, the economists say.

Administration seeks support for weaning co-ops

Eisenhower Administration officials are going to try to get the support of farm organizations and local rural electric cooperatives in their drive next year to wean the co-ops away from dependence on the federal government's purse.

This seemingly-impossible plan was revealed recently by Kenneth L. Scott, head of the Agriculture Department's credit services. The plan is to get such groups as the Farm Bureau Federation and the Grange to support the Administration's bid to cut the subsidy to REA co-ops.

In addition, the Department will try to get the support of local co-ops and co-op organizations, despite the bitter opposition of the National Rural Electric Cooperative Association.

The Administration wants to get "grass roots" support for its two-pronged bid to reduce the government subsidy by raising the present statutory 2 per cent interest charge paid by co-ops on loans from REA to cover the full cost to the government. In addition, it wants to force the co-ops to go to regular commercial money markets for at least part of their financing.

Congress this year refused to consider either proposal, and continued to pass out funds for REA loans with a free hand, even though 96 per cent of all farms are now electrified and some 60 per cent of new REA co-op capacity goes for industry or other non-farm uses.

In addition, next year the Administration will seek congressional approval of a new third step. This involves establishment of a new bank, financed and owned by the REA co-ops themselves.

New drive underway to expand TVA

A fresh drive is underway to expand the already-massive Tennessee Valley Authority—the government's vast power empire in the Southeast.

Sen. Estes Kefauver (D.), Tenn., one of the leading champions of the TVA, says he will press for legislation in 1959 to permit a massive expansion of the project. Among other things, two measures which would permit the TVA to finance itself through the sale of revenue bonds, thus removing it from effective control of Congress and the taxpayers, will be sought. These were defeated this year.

The Senator has criticized the Eisenhower Administration for scuttling further TVA development in favor of "subsidized private monopoly" power interests.

Taxpayers, in the first 25 years of TVA, have invested more than \$1.5 billion in the TVA system. Although there are some 37 dams, the system uses steam generating plants to get a startling 75 per cent of the 10.2 million kw it produces each year, buying \$80 million worth of coal to run them.

Although originally conceived to provide cheap power to homes and farms, some 51 per cent of the power produced now goes to defense installations, mostly the Atomic Energy Commission, but also many private plants which were lured there by the cheap power.

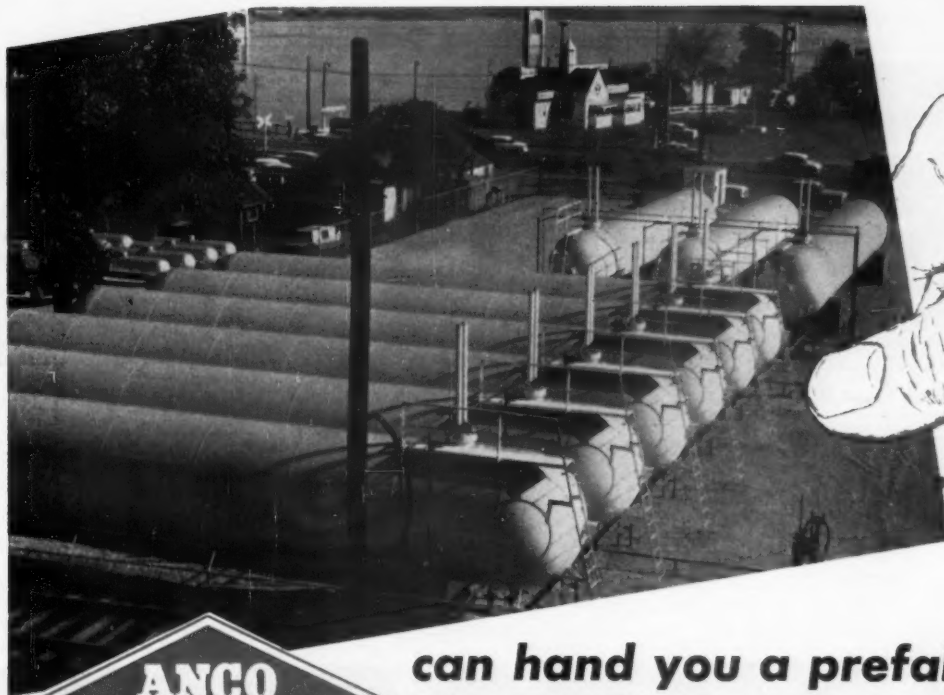
Because of the cheap rates—1.2 cents per kw compared with a national average of 2.6 cents—residents in the area it serves are the nation's largest electricity users.

Regular banks returning to investment methods

Banks and other lending institutions are ready to take advantage of new laws which will enable them to make long-term investments in and loans to small firms.

For the first time in 25 years, since they were divorced from the investment banking business, regular banks now are allowed to return to investment operations through newly-formed subsidiaries and through combination small business investment companies.

These new investment firms, operating either on private capital or with generous government help, are permitted to make loans up to 20 years to small firms. They are also allowed to buy stock in small firms, thus furnishing the first real source of equity capital for the little businessman.



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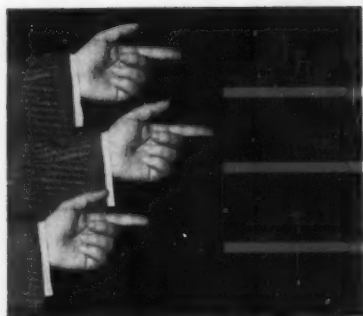
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Wherever your location — whatever your size of operation — you can profit from Tuloma's complete LP-Gas service. Tuloma's track and tank car fleet give dependable service from strategically located sources of supply. Experts trained in all phases of LP-Gas operation give your account — large or small — the close attention you want — "plus service" for aggressive LP-Gas distributors and dealers.

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The story of Tuloma's supply has been long forgotten by the Tulsa contract customer. He knows Tuloma supply centers are among the largest and most modern plants and refineries in the nation, strategically located in 14 states. Tuloma can handle all of his LP-Gas requirements, whenever he may be, whatever the size of year. In other words, Tuloma gives his producer no plan for expansion.

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Billings, Montana

Des Moines, Iowa

Russell, Kansas

Houston, Texas

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ON TIME ALL OF THE TIME

The Tuloma customer is no slack watcher — he knows Tuloma LP-Gas is precision-timed to meet customer needs. Deliveries are made when he wants them, in trucks or tank cars from Tuloma's large transportation fleet. He knows, too, that Tuloma LP-Gas comes from plants, refineries, and underground storage facilities strategically located for prompt deliveries all through the year. Don't be a slack watcher!

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In this dynamic LP-Gas industry the successful distributor or dealer must have an aggressive, forward looking LP-Gas supplier, offering services beyond just contract obligations. That's why so many fast grow-

ing businesses today are contracting with Tuloma. Our many and varied services, backed by a vigorous expansion program, are planned for the immediate and future growth of our customers.

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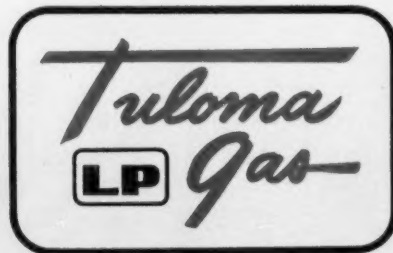
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DECEMBER 1958

beyond the mains



UNLESS YOU ARE FROM NEW JERSEY, chances are you missed seeing one of the greatest gas spectacles of the age, the Parade of Gas Progress in Atlantic City. Last month BUTANE-PROPANE News brought you a roundup of a number of the most outstanding displays in the Parade.

The printed word, however, cannot possibly convey the full significance of the exhibit. You should have seen it in person. The products shown were not simply refinements of well-known models; they were entirely new concepts, though all are now in production.

There were also peeks behind the curtain of tomorrow. Most fantastic of these was the Miracle Kitchen with its self-propelled dishwasher, power burners, and disappearing cooking units. There was the Multimatic Gas Wall, a completely unitized gas center, which AGA is hoping will go into production next year. There were other wonderful products of AGA research, such as the high-speed, top-of-the-stove oven.

Yet there was a touch of irony in the situation. While the throngs traipsing through Convention Hall were being bedazzled by this great spectacle, not many feet away, in a conference room, gasmen were discussing a much more mundane subject, and finding it difficult to come to a final agreement. They were arguing the merits of the AGA's new approval requirement making automatic ignition mandatory. Hereafter, the AGA membership had decided, no range would carry the seal of approval unless oven and broiler, as well as top burners, were "matchless."

The adoption of the requirement is a big step. It's going to hit a lot of range manufacturers right in the pocketbook, particularly those whose principal sales have been in the mass building market.

But the die has been cast, and after January the new requirement will go into effect. And if it means a great deal to the manufacturers, it means every bit--or more--to you.

No longer can you sell on price alone. There will still, of course, be bottom-of-the-line models for you to sell. But the price floor is being jacked up a notch, and if a matter of a very few dollars is going to lose a sale for you, be prepared to lose it.

But those sales do not need to be lost. Today, we are pulling out of a recession--slowly, yes, but surely. We are at a threshold. When people lost confidence in the economy, they suddenly became more price-conscious. Do we need the best? they asked themselves before every purchase. Today, with the business upturn, people are beginning to shed their timidity. Once more pride of ownership will be a strong factor in their buying.

Let's appeal to it! The AGA is launching a brilliant new sales campaign to promote top-of-the-line appliances--the Gold Star Awards program. Each range that satisfied certain quality requirements will bear this seal, and the seal itself will be heavily promoted and advertised. GAMA and the LPGA are throwing their weight behind it. And so should you. You may not actually make too many sales in this deluxe bracket, but by supporting this promotion you will be upgrading your appliance sales right up and down the line.

William Clark

FOR TROUBLE-FREE LPG TRANSFER

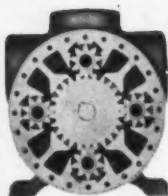
a pump especially designed for this service

FOR THE LOWEST PUMPING COST PER GALLON

a model and size to fit your operation



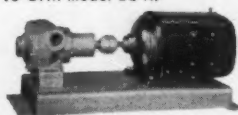
Will fill all small tanks as fast as any larger pump. 100-lb. cys. in 4 minutes or less, 20-lb. cys. in 1 minute or less, fork lift tanks no problem. 10 GPM models EC-1, MC-1, and GC-1. 15 GPM model EC-H.



SPECIAL BALANCED DESIGN

It is essential to choose a pump especially designed and made of special materials for top efficiency in LPG service.

Conventional pumps originally designed for fuel oil are not suitable because they depend on clearances which result in excessive slippage (propane is more than ten times thinner) and cannot develop high pressures efficiently; they depend on unbalanced shaft loads and wear rapidly (LPG has practically no lubricating qualities).

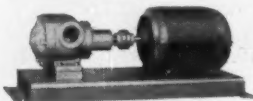


For small volume transfer work. 20 GPM model MC-1044 35 GPM model MC-1044H

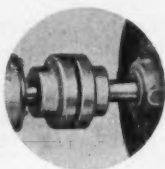


THE SAFEST PUMP

Smith pumps have the only dependable shaft seal, because it is designed especially for LPG, especially for our pumps and built entirely in our own plants; the first and still the only trouble-free self adjusting shaft seal. Smith pumps have the strongest cases, do not trust to O-rings or gaskets in pump joints. First with U.L. Approved models.



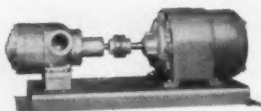
For medium volume transfer. 50 GPM model MC-2 or MC-2Q (higher pressure, quiet running)



DESIGNED FOR THE JOB

Each model is built direct connecting to the power source (direct to electric motor or direct to truck power take-off) without expensive and troublesome chain, belt or gear drives.

There is a Smith pump to give you the lowest cost per gallon and most efficient LPG transfer for your particular scope of operation.



For large volume transfer 100 GPM model MC-3



Write for NEW complete catalog.

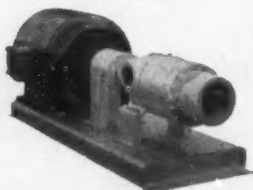
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For high capacity loading 150 GPM model MC-4



For delivery truck service where flexibility is desirable. 20 GPM at 500 RPM or 35 GPM at 900 RPM model TC-H



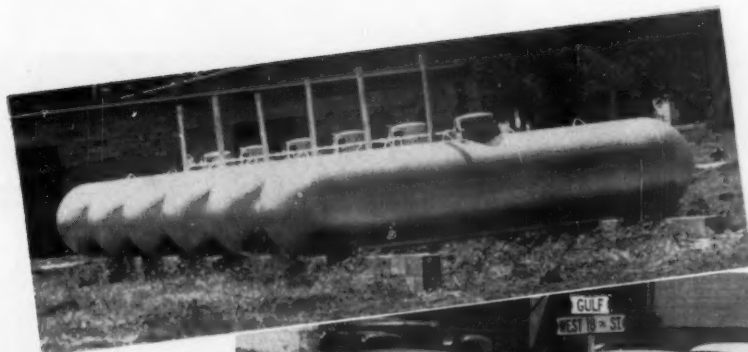
For average truck service 50 GPM model TC-2



For "high flow" delivery truck service 100 GPM model TC-3



For trucks with automatic transmission 50 GPM model ATC-2 100 GPM model ATC-3



Small town dealer, BIG INDUSTRIAL LOAD

By KEN KIRKPATRICK

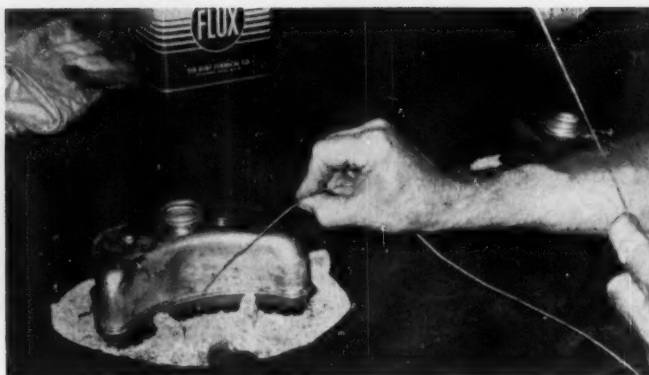
**Missouri L. P. gas
dealer in city of 3233
population develops
an industrial load of
350,000 gal. per year**

CARL SCHMITZ, owner of Schmitz Appliance Co., Lamar, Mo., has proved that LPG dealers can build a substantial industrial load outside of major industrial centers. By applying L. P. gas to solve industrial plant problems, Mr. Schmitz has developed industrial sales of 350,000 gal. annually in the small town of Lamar, population 3,233.

Mr. Schmitz' success in selling to industrial accounts is based on three factors, (1) a thorough knowledge of the advantages of L. P. gas in solving the customer's problems, (2) a sincere desire to help in solving these problems, and (3) a continuing program of making sales calls on prospects and of maintaining contact with customers to provide needed services. This is



A workman is shown laying pre-formed solder rings on gas tank parts. The frame holding the five parts will be pushed forward so that an LPG flame located beneath each part can rapidly melt the solder.



An LPG flame directed at the overhanging flange rapidly heats the metal enough that solder applied at joints melts quickly. The burners are mounted so that they rotate as the worker applies the solder.

a program that any well-informed LPG dealer can follow.

Mr. Schmitz was one of the first LPG dealers in Missouri, opening his business in 1939. Lamar has no natural gas distribution system, and Schmitz Appliance, in addition to its industrial and farm customers, services many Lamar businesses and residences with two extensive metered gas systems.

Schmitz Appliance has lines laid to about 250 homes in town. A second (high-pressure) LPG distribution line serves businesses around Lamar's square in the center of town, with meters at each point where customers' lines connect with the LPG main. He also has about 150 metered gas customers in rural areas served by individual tanks.

Despite his many other customers, industrial users are important to Mr. Schmitz, accounting for almost 12 per cent of his annual sales. Several of these customers are typical of industrial sales opportunities awaiting LPG dealers all across the country. Two good examples are the Edward Aaron Corp., a poultry processing plant, and the Barton County Packing Co., a meat packer. Mr. Schmitz's other industrial accounts include the Thorpe Manufacturing Co., a Smith Brothers overall factory, and

a large lawnmower plant owned by the Lawn Boy division of the Outboard Marine Corp. Although plants of these last three types may not be present in a given area, many of the processes used are common in all manufacturing plants. An alert LPG dealer can expect to find many LPG applications in local manufacturing plants that are similar to the uses Mr. Schmitz found in Lamar plants.

One customer, 300,000 gal.

The Lawn Boy division of the Outboard Marine Co. is Schmitz Appliance's largest industrial customer. This plant alone uses 300,000 gal. of propane annually. The versatility of L. P. gas helped it displace both fuel oil and electricity in many applications within the plant. Resulting savings in production costs, according to a Lawn Boy official, amounted to a spectacular \$50,000 per year in a single application!

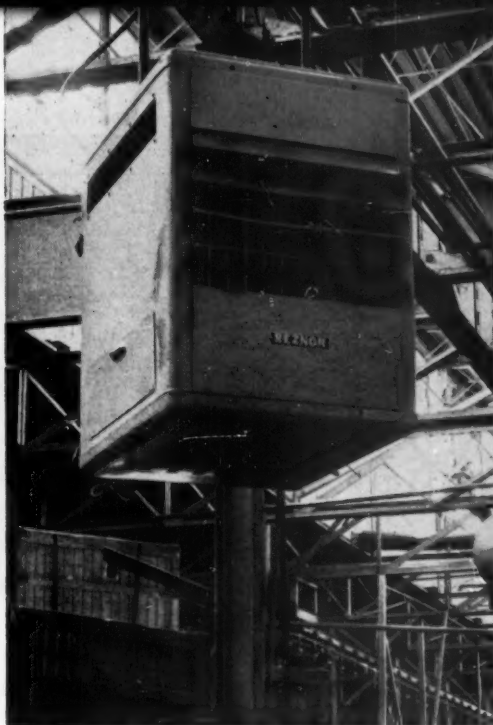
Schmitz' business relations with Lawn Boy illustrate the value of genuine helpfulness in selling to industrial users. The first L. P. gas application Schmitz sold to Lawn Boy was for melting magnesium. A magnesium casting operation involved four melting pots that were supposed to melt 500 lb. of metal

per hour. Lawn Boy had experienced difficulties in trying to use fuel oil, and the cost of electricity for this application was prohibitive. The problems involved in using fuel oil were that the heat could not be controlled easily, heating was too slow, smoke from oil burners was objectionable, and too much labor was required to control oil burners properly.

Mr. Schmitz installed 1,200,000 Btu LPG burners on each pot and provided thermostatic controls. The installation was highly successful. The company no longer uses this magnesium casting process, but the excellent performance of L. P. gas enabled Schmitz to sell the company on using it in many other applications.

Replaces electricity

Strangely enough, the L. P. gas application which was most impressive to Lawn Boy's management and which provided the firm its biggest saving probably uses less L. P. gas than any of the other applications. In soldering together the parts of the lawnmower's gas tank, the company had run into serious difficulties. An electrical machine that cost nearly \$15,000 was turning out only 75 gas tanks per hour. In addition, the electric



This is one of 35 space heaters Schmitz has sold and installed for Lawn Boy. The heaters are all mounted overhead.



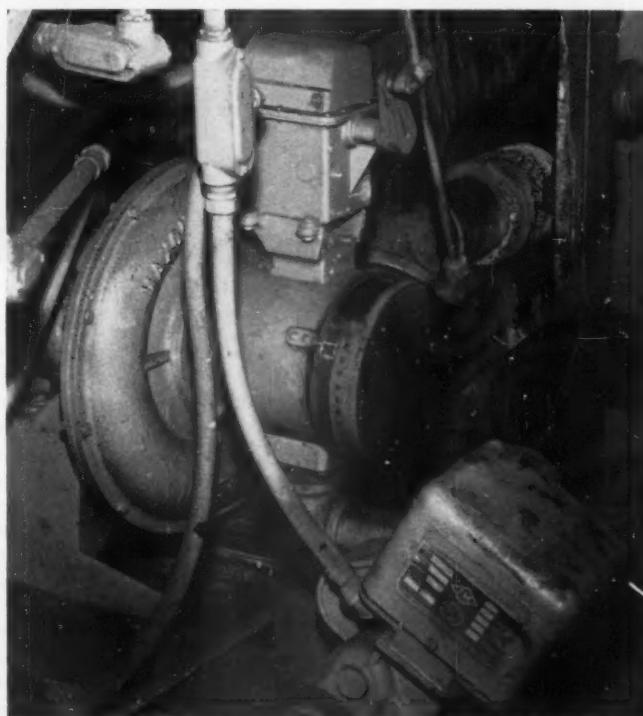
Space heating is an important use for L. P. gas in the Smith plant. The forced-air heaters are positioned to blow warm air against wall surfaces, thus providing perimeter heating.

soldering system was not dependable. The work it turned out was so faulty that two men were required to inspect completed gas tanks for leaks. Altogether, five men were needed to handle the necessary operations.

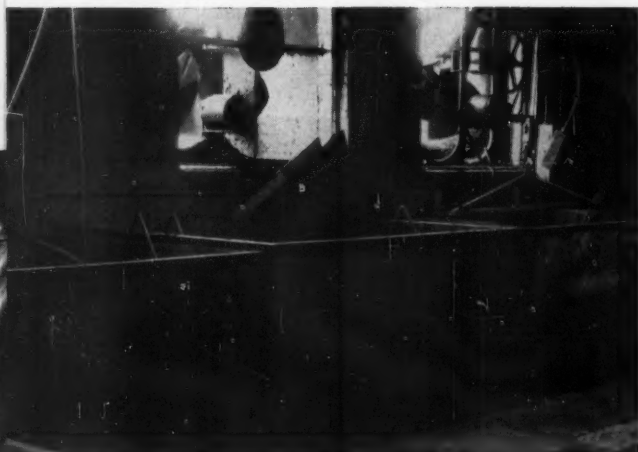
Mr. Schmitz suggested that propane flames from burners especially designed for the purpose would heat the gas tank parts rapidly so that they could be soldered in a minimum of time. He designed burners to fit the shape of the gas tank parts, and L. H. Ulery, the plant engineer, designed simple machinery to handle the three soldering operations required.

Saved \$50,000 per year

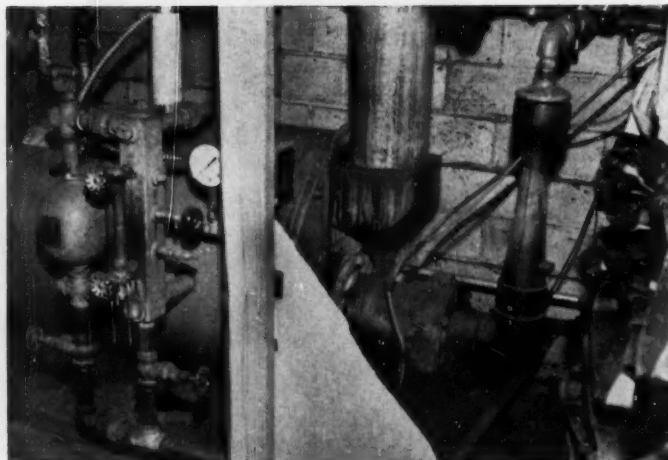
This new equipment, including the burners Mr. Schmitz designed, performs so efficiently that production has been raised from 75 to 300 gas tanks per hour, while personnel required to perform these operations has been reduced from five men to only three men. The total value of the changeover to Lawn Boy was estimated by one of the firm's officials at about \$50,000 per



The high Btu burner provides heat for a long drying oven on the Lawn Boy assembly line. Painted parts go through the drying oven to dry the finish thoroughly.



LPG burners beneath these tanks heat a chemical bath used in cleaning metal parts for painting.



This L. P. gas fired boiler furnishes steam for pressing in the Smith Brothers plant.



Here is the 18,000 gal. storage tank which makes up part of the Lawn Boy LPG storage facilities.

Large storage

Lawn Boy uses so much L. P. gas that Schmitz has brought in a railroad siding for convenience in filling the plant's LPG storage tanks. Schmitz owns all the tanks used and the pumping equipment on the site, leasing them to Lawn Boy. Storage facilities consist of 16 1000 gal. tanks and one 18,000 gal. tank. The 16 tanks are manifolded together and act as a high-recovery vaporizer unit, furnishing adequate pressure even on the coldest days. Schmitz is fully responsible for providing an adequate fuel supply and for regulating the volumes and pressures in the tank system.

The main LPG lines running from the tanks to the plant were laid so that further plant expansion could be handled without laying additional lines. A high pressure 3 in. line goes around the plant on three sides, south, east, and north. Pressure in lines within the plant is reduced to 10 psi.

Lawn Boy officials have been so well pleased with the performance of L. P. gas that they are now discussing with Schmitz the possibility of converting their five fork lift trucks and their highway transport fleet to L. P. gas.

year. Surprisingly, the burners involved use only 4 gal. of L. P. gas per day.

A major use of L. P. gas in the Lawn Boy plant is for space heating. Over a period of four years, Schmitz has sold and installed 35 propane-fired Reznor heaters, at an average cost of \$300. These heaters are all mounted overhead. Lawn Boy was using fuel oil before Schmitz installed the LPG-fired heaters.

Cleaning metal for painting is an important process in the Lawn Boy plant. Water must be provided at 180 deg. F. for this operation. Fast recovery is vitally important because the operation cycle allows

only 11 minutes for the 700 gal. of water in each of five vats to be reheated following each cleaning operation. As much as 600 lb of metal may be placed in the vats at once, thus greatly lowering the temperature of the water in the cleaning bath.

Other LPG applications include heating mower blades and engine shafts for tempering, searing the cut ends of nylon ropes used to start mower engines, heating water for the company's laboratory, keeping dies in an electric diecasting machine hot, firing cutting torches, and firing soldering torches. In this last application, L. P. gas replaced acetylene.

Poultry processing

The Edward Aaron Corp. poultry processing plant uses L. P. gas for space heating, for heating water to scald chickens, and for singeing plucked chickens. The firm's use of L. P. gas ranges from 15,000 to 20,000 gal. per year, with a 3-1 load ratio. The Aaron Corp.'s LPG storage facilities, leased to them by Schmitz, consist of five 1000 gal. tanks manifolded together.

The Barton County Packing Co. is another industrial user of a type that any LPG dealer may find in his territory. This packing firm also offers the advantage of an evenly balanced load.

Barton County Packing Co. uses L. P. gas for space heating and for firing the ovens in which meat is cooked or smoked. Schmitz installed L. P. gas burners in the company's smoke house and provided a diverter to regulate the flow of smoke through the vent. This made possible adjusting the smoke level at any height from 1 to 6 ft above the smokehouse floor.

L. P. gas gives Barton County Packing Co. an especially important advantage not provided by other available fuels. The firm was faced with the problem of controlling temperatures over a range from 125 to 275 deg. F. The temperature was to be gradually increased over

a period of time to provide correct temperatures for curing or baking the meat products being processed. The customer chose L. P. gas because it made possible positive thermostatic temperature control.

Barton County Packing Co. uses about 6000 gal. of L. P. gas annually. Schmitz leases a 1000 gal. storage tank to the firm.

The Thorpe Manufacturing Co. produces wire. The firm uses L. P. gas to heat metal-cleaning baths, to heat office areas, and to fire laboratory burners. Annual consumption of L. P. gas for these uses is about 3000 gal. The company owns a 500 gal. storage tank, from which a 10 psi line runs to the building. This pressure is maintained to fire the high-output burners for the cleaning bath, but is reduced to 6 oz in lines which feed space heating units and all of the laboratory burners.

Sales methods

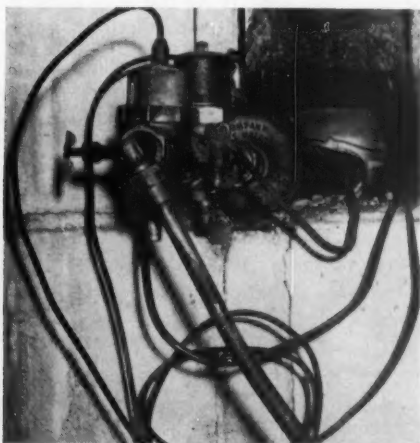
Another industrial user is the Smith Brothers overall and blue jean factory in Lamar. Schmitz' sales methods are illustrated well by the story of this sale. When the building was planned, Mr. Schmitz submitted an early bid on installing a boiler burner and nine overhead heaters, costing about \$2700. When construction began on the building,

Mr. Schmitz went to the proper company official and again asked for the business. Informed that the other bids on the job had not yet been submitted, Mr. Schmitz pointed out that delaying until the roof was completed would increase the cost of the installation. The company official realized the value of the LPG dealer's suggestion and immediately awarded him the job. His knowledge of the customer's needs and his prompt follow-up landed this valuable customer for Schmitz Appliance.

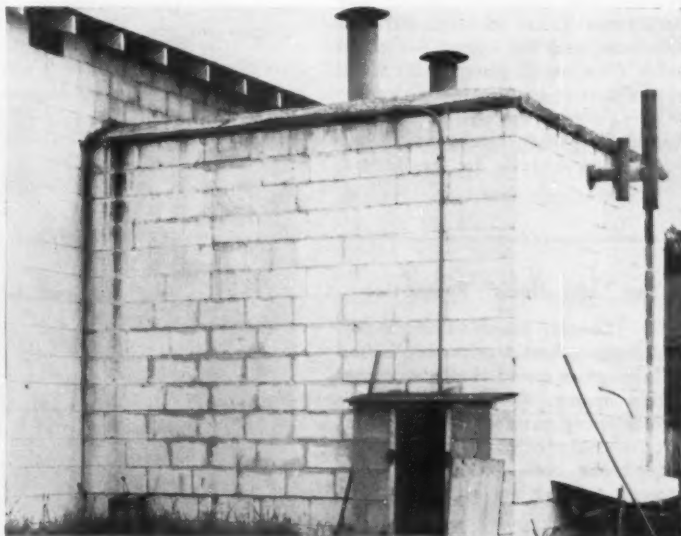
This 11,200 sq ft plant uses L. P. gas both for space heating and for steam-pressing finished garments. Fuel consumption is about 15,000 gal. per year.

Storage capacity, leased to the firm by Schmitz, consists of six 1000 gal. tanks. A two-stage line is used, with a high-pressure line (10 psi) from the tanks to the building, where pressure is reduced to 6 oz. Schmitz maintains proper fuel levels in the tanks, making deliveries by truck.

Every town, no matter how small, has industrial plants of some type in or near it. These offer lush load opportunities to L. P. gas dealers who can see the opportunities and seize them. They've been using fuel oil or electricity for years? Fine. They should be even easier to sell on L. P. gas. ■



This is one of the LPG burners used in firing the Barton County Packing Co.'s smokeroom-oven.



This extension from the packing company building houses the smokeroom ovens. The small structure at right center and another similar one on the other side of the wing shelter two LPG burners.

Putting the 'PRO' in PROMotion

By JUDITH F. TAGGART

The professional touch makes promotions pay and results in appliance sales. Here is how one of the real pros, A. C. Ferrell of Ferrellgas, Atchison, Kans., does it.

Nailing down the very active A. C. Ferrell for an article has always been next to impossible. So who did BPN get to do the story? A. C.'s daughter, Mrs. Judith Taggart, who is also a professional trade paper writer.



The "Red Rose" Promotion

Women love roses and women buy appliances. Offer to hand out free red roses, and the women will come in for them. A. C. bought 100 dozen of the flowers as bait for all women who registered for a free drawing. Result: \$30,000 in appliances in one month due directly to the promotion.

The "400 Block" Promotion

Street dances, bands, floor shows, and many valuable prizes are bound to attract a crowd, but these cost heavy money. A. C. brought together every merchant on his block into a cooperative promotion and shared the costs. The result: huge crowds culminating in heavy sales for all merchants.

RED roses mean romance to most people, but to A. C. Ferrell, A. C. Ferrellgas Corp., Atchison, Kans., red roses mean business. And that's business with a capital dollar sign.

Never a man to do things on a small scale, Mr. Ferrell bought one hundred dozen roses—gambling on using them to promote the sale of appliances. It proved no gamble, but one of the wisest investments he'd ever made. After all, women buy appliances—and women love red roses!

Mr. Ferrell terms his "red rose promotion" the most successful of the many ideas he'd tried. The rose, of course, is the bait, and in the course of several like promotions, it's hooked many customers for the A. C. Ferrellgas Corp.

For a red rose practically shouts its advertisement. That's the secret of its drawing power. A woman may read the ads in the newspaper and hear them over the radio, but all too often she either ignores them or forgets them—until she sees a woman on the street carrying a

lovely red rose. Then she remembers that a red rose is being given free to every lady who registers at the A. C. Ferrellgas store. That's the chain reaction that fires a successful promotion.

Mr. Ferrell built each of these three-day rose promotions around a unique giveaway—the winner's choice of any appliance in the store. The choice was recorded on the register card as each person registered.

Mr. Ferrell finds these "your choice" promotions have two valuable advantages. First, they encourage the customer to select the appliance she really needs and would like to have, making subsequent follow-ups of the cards more profitable. And second, they lure more people into the store. For if a single stated item is to be given away, those who are not interested in that specific appliance are not as likely to come as they would be if given their choice of a prize.

"So what if we did give away a freezer that first promotion?" says





A part of the crowd that turned out for the "400 block" promotion.

Mr. Ferrell. "It proved our sincerity and was a small investment in the \$30,000 volume directly resulting from the promotion that month."

That \$30,000 figure is concrete proof of the promotion's success. An unusually large amount was sold during the event, and the rest resulted from salesmen working leads gained from the prospect cards.

An old pro at promoting the sales of appliances, Mr. Ferrell has proved again and again that it all adds up to giving the customer what she wants—and spicing it with a dash of showmanship.

That's why people jammed the store and lined up outside for each of Mr. Ferrell's four auctions. Mr. Ferrell believes people appreciate the occasional opportunity of buying at their own price from a reputable merchant who backs each sale with service. In fact, he points out that instead of momentarily saturating the market, each of the auctions caused renewed interest in the appliances and business picked up in the weeks that followed.

A firm believer in the "house-cleaning" effect of auctions and their shock value on the buying public, Mr. Ferrell says that given a top auctioneer, the retailer comes out ahead in the auction itself, as well as in the stimulation of business.

It's no boast when Mr. Ferrell says he's never had a promotion but what the store's been full. Two factors in his promotion planning have helped fill that store. The first is a sound idea, based on an understanding of the community

and his customers. The second is effective advertising.

Full page ads plus comparable radio advertising are the rules for a full scale promotion. A particularly successful campaign employed the "teaser technique."

Mr. Ferrell initiated a promotion to be staged cooperatively by all the merchants in his business block. Weeks before the event, a tiny one-inch white space with a black dot in the middle appeared in the local paper. Each evening this same white space with its dot grew larger. Finally, it absorbed a whole page, and the next night the full page ad for the 400 Block's week-long promotion broke. The promotion succeeded to the extent that it became an annual affair, actually looked forward to by the community.

Distributed among the many merchants in one block, the cost of hiring a dance band, presenting parades and floor shows, and giving away major prizes is minimized. The meeting of minds produces novel ideas, too, such as the 400 Block importing a huge man to casually stroll the downtown streets carrying a tiny, squealing, white pig. Street dances can be extremely popular, too, as the 400 Block proved by roping off the street Saturday night for a big climax to its promotion.

The basic element in Atchison's 400 Block promotion was its demonstration of oneness among that block's merchants. Visibly expressed by the wearing of red cowboy hats and shirts, the feeling was carried further by the practice of sweeping sidewalks at a certain time each morning and

appearing at civic functions as a body.

Behind all of Mr. Ferrell's "promoting" lies the basic theory that as long as people talk about you, you're alive and kicking. And the more they talk, the more likely they are to at least step inside your doors once in awhile.

For this reason, Mr. Ferrell has always tried to stage an exciting promotion three or four times a year. Always using a new idea, or a new twist to an old one, he's managed to keep his customers talking. Mr. Ferrell has used every excuse for a promotion, from remodeling his store to a slump in business.

He's steered clear of the traditional events—anniversaries, seasonal sales and the like. To Mr. Ferrell, these are too staid; they lack the novelty to drive a promotion home.

But A. C. Ferrell has created traditions of his own. He has always shown his merchandise at area fairs and home expositions. And he's made a point of emphasizing live demonstrations at his promotions. Their value in putting the Ferrell name on the customer's tongue was never more forcibly illustrated than when, at one promotion, the cooking demonstration was omitted. More than one person, many not regular customers, inquired what happened to "those good beans you always used to serve?"

Mr. Ferrell points out that you can think up all sorts of ideas and promote them to perfection—but the payoff is up to your personnel. Your men must be enthusiastic, to begin with. They must share your belief in the promotion, and in the appliances. And then they must be not only willing but eager to wear out shoe leather chasing down those prospects.

Mr. Ferrell's formula is to base a good promotional idea on your knowledge of your customers—then follow-up those prospects right away. It's the old one-two punch, and it's a knockout where sales of appliances are concerned. ■

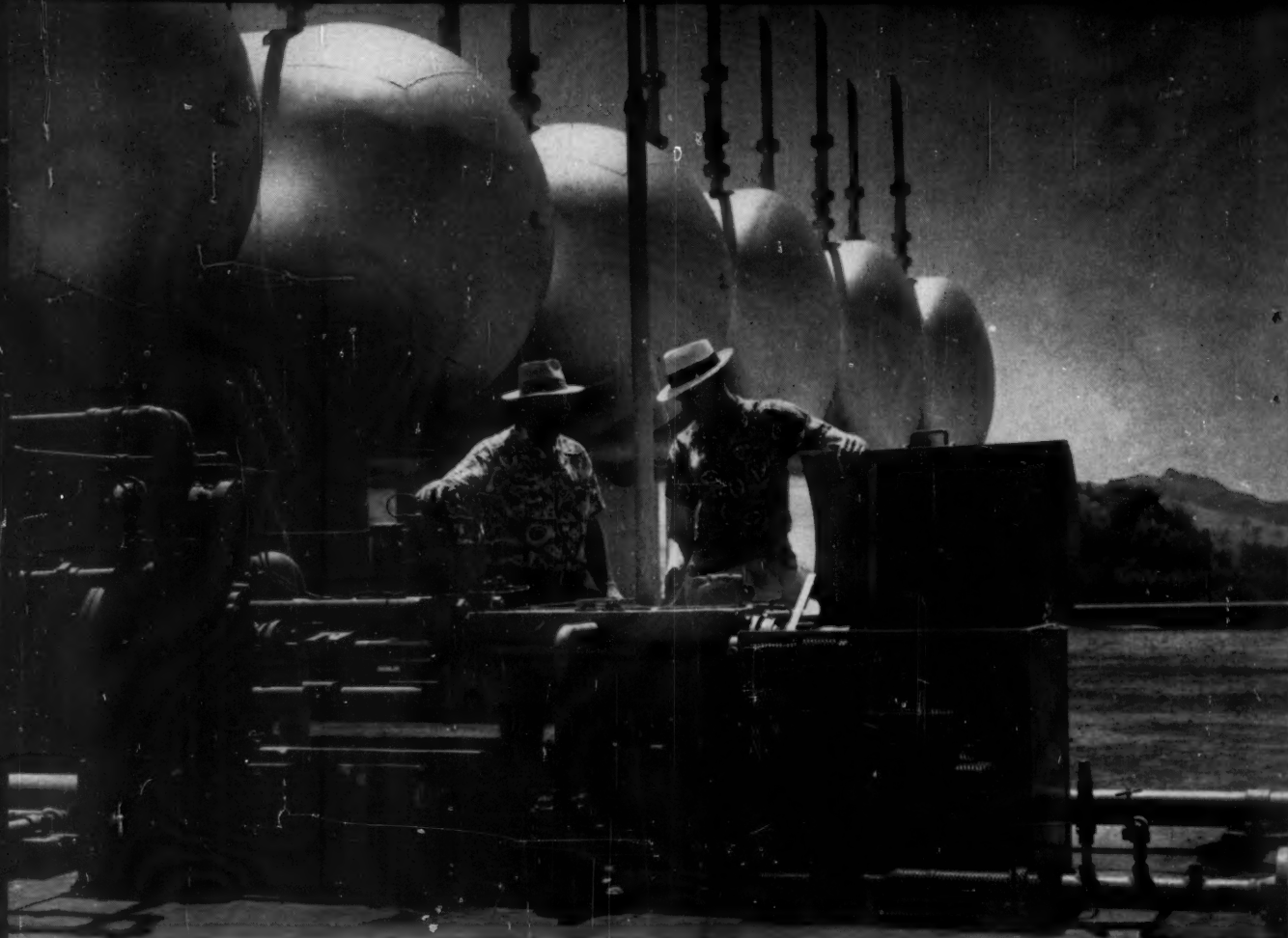


Photo courtesy Sunray Mid-Continent Oil Co.

Propane is injected into an oil reservoir near Newhall, Calif.

LPG GIVES OIL A BOOST

By MARTIN A. BROWER • Managing Editor

ONE per cent of all marketed L. P. gas during 1957 went for use in a new process with a complicated-sounding name which has shown promise of much future growth. The process—miscible-phase displacement—took 68,557,000 gal. of LPG last year while still only in the experimental stages.

Miscible-phase displacement is actually a new method of secondary recovery of petroleum in oil fields. An example of its potential is il-

lustrated by the Bisti field in northwestern New Mexico, where preliminary experiments have proved exciting to oil men. Estimates are that the Bisti field holds 100 million bbl of oil. Primary recovery—pumping the oil out under its own pressure—would yield only about 20 million bbl.

Ordinarily, dry gas would be injected into the field as a secondary recovery method and this would bring up another 10 million bbl.

But this would still leave 70 million bbl in the ground with no economical way of bringing it out.

Now comes miscible-phase displacement, which uses a slug of L. P. gas in front of the usual dry gas. The result: an extra 26 million bbl of oil.

Like cleaning your hands

The best explanation of miscible-phase theory is the one given by Sunray Mid-Continent Oil Co. "If

you have oil on your hands, soap and water will flush off some of the oil, but not all of it. This is similar to ordinary water-flooding operations (the conventional method of secondary recovery). But if you should use gasoline, the gasoline will mix with the oil. Then the combination oil-gasoline can be removed from your hands easily."

Miscible merely means the ability to mix. It might almost be called mixable. In some areas, oil can be shoved out merely by flushing with water, even though the oil and water don't mix. But in many types of oil formations, water does little good. Dry gas has been used with some success, since the gas does mix with oil to an extent. But LPG, being nearer to the composition of oil, mixes even better. Miscible-phase displacement with LPG therefore uses a slug of LPG to mix with the oil and wash it out when the mixture is pushed through the oil reservoir by dry gas.

More than doubles production

While some predictions were that use of LPG in secondary recovery could triple oil output of a well, more conservative estimations are that recovery will be a little more than twice the amount than under normal conditions. In either case, it looks like miscible-phase displacement is here to stay.

And what happens to the L. P. gas injected into the ground for mixing with the oil? Experts say almost all will be recovered when it comes out of the well with the crude oil. In fact, such projects will actually provide another type of underground storage for LPG.

Sunray Mid-Century has been one of the leaders in developing the new recovery method. One of the first projects was a combination LPG storage and pressure maintenance program at Sunray's Newhall-Potrero field in Southern California. This project uses propane-injection to maintain reservoir pressure and increase oil recovery. At the same time, the pool will be used for summer storage.

Bisti project

The Bisti project, however, is the one that has captured the fancy of the industry. Partners with Sunray in this undertaking are Phillips Petroleum Co. and British-American Oil Producing Co. In this experiment, which uses only a small part of the field, 31,000 bbl of LPG were injected into the formation through an input well. This injection consisted of 7600 bbl of butane followed by 17,000 bbl of butane-propane in a 50-50 mixture, then 6400 bbl of propane. The LPG was injected at the rate of 1000 bbl daily. Then 85 million cu ft of dry gas were forced in at the rate of

500,000 cu ft daily. The wait began.

In four months, things began to happen. Well pressure increased. The gas-oil ratio dropped. The producing rate went up. In the first eight months, as much oil was taken out as might have been produced in 20 years under primary conditions. Of the 1 million bbl in the experimental reservoir, Sunray expects to recover 650,000 bbl through miscible-phase displacement compared with only 250,000 bbl if ordinary production methods were used and 320,000 bbl if dry gas alone were used.

Skelly, too

Now Skelly Oil Co. has disclosed plans for a \$400,000 experimental butane-injection project to hike oil recovery in its lease in the Panhandle field of Hutchinson and Carson counties, Texas. Dry gas injection is currently being used there.

Use of LPG in secondary recovery provides another interesting and important use for the product. Unlike use of LPG in manufacture of petrochemicals and synthetic rubber, fuel injected into the earth for oil recovery purposes is not taken out of use permanently. And miscible-phase displacement could have beneficial effects on the overall LPG picture by providing additional storage during summer months.

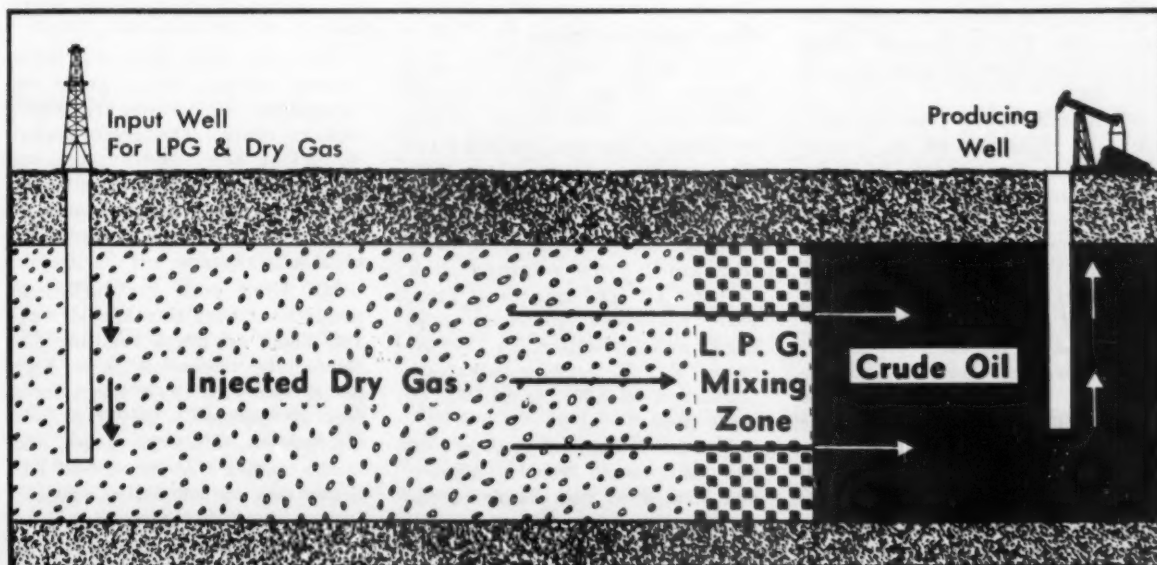


Diagram by Sunray engineers shows how dry gas pushes slug of LPG which has been injected to mix with crude oil.



1. LPG for trailers at Bright Meadows mobile home park is fed from a 1000 gal. bulk tank . . .



2. . . through a 1½ in. underground piping system which carries the LPG at 15 lb pressure . . .

Pipe dream in

By WILLIAM W. CLARK • Editor

THE house trailer load can be converted into a steady, dependable, and completely trouble-free business when you have a customer like Bright Meadows Mobile Homes development near Lancaster, Pa.

Bright Meadows poses no problems of skips because its tenants are either permanent or semi-permanent. There are no weekend or middle-of-the-night outage emergencies, because the park is a piped system. There is no dealer hopping at Bright Meadows because all the gas used comes from the dealer's own tank. And delinquencies—if there were any—would be no concern of the dealer, because he doesn't bill the tenant. He bills the park operator.

C. W. Witmer, the Pyrofax dealer in Soudersburg, Pa., on the eastern edge of Lancaster in the Pennsylvania Dutch country, is a conservative businessman. He shuns the general run of trailer courts.

But nearby Bright Meadows is something else again. It's like serving a sizeable industrial installation—you deliver it and forget it.

Piped gas load grows

This park, which is set on a pleasant 30 acre plot of former farm land in open, rolling country northeast of the city, has had piped gas since it was opened late in 1956. As the park has grown, so has the gas load—automatically. In the beginning there were 18 units, today there are 50—with a waiting list of 25—and all trailers are on piped gas. Expansion continues with hardly an interruption. By 1960 the owner, Ray M. Groff, anticipates a population of 160 homes. All on piped gas.

The gas is supplied from a 1000 gal. tank owned by Mr. Witmer, and located at one corner of the park. All the piping, from the outlet of the tank regulator, is owned by Ray Groff, as are the service meters and regulators. LPG dealer

Witmer makes his deliveries about once a month (at present). Mr. Groff does the meter reading, billing, and collection himself, and pays Mr. Witmer for the entire load.

The park falls into the upper bracket among mobile home developments. Its tenants are steady and dependable. The largest majority of them are skilled workers, but there are also service families on fairly long (e.g., 2-year) tours of duty. One tenant is a doctor, another a minister.

Mr. Groff built the park purposely to attract this kind of tenant. There are ample facilities for community recreation on a high plane. One area is set apart for a baseball diamond, a play yard, picnic ground, archery range, and quoits stakes. A recreation hall is now nearing completion, and will house library facilities, ping pong tables, magazines, and television. Nearby is a community swimming pool. The farmhouse which was



3. . . . to utility vaults at each site. Here the pressure is reduced and gas is metered . . .



4. . . . to the modern mobile homes. The housewife above enjoys dependable, metered LPG service.

a trailer park

standing on the property when he bought it has been turned into a combination home for his superintendent and service building. In it are a post office, sundries, and a laundry facilities for use of the tenants.

Mobile homes are modern

Most of the homes are large and modern, some in the up-to-\$9000 luxury class, and they are located in a setting that shows them off to advantage. Each is set on a grass-covered lot, the smallest of which measure 40 x 80 ft—one third larger than the minimum size specified by FHA, says Groff. The largest are 42 x 100. Each has a concrete apron, which forms a porch or patio, and concrete ribbons for foundations. Alongside each home is a countersunk utilities vault, which houses the gas facilities as well as the telephone, water, electrical and sewage connections.

Undiluted gas vapors are brought into the utility box through a gal-

vanized iron service line. Here the 15 lb pressure is reduced to 6 oz by a Fisher regulator, and the gas is run through a Neptune pound meter. At the outlet of the meter, a length of copper tubing is led off and connected with the trailer's standard tubing.

Hookups can be made in a matter of minutes.

Every tenant in the park is a gas customer, and all are served off the main. Mr. Groff bans bottles from the park—incoming tenants must "check them at the door." All use gas for cooking, most use it for water heating, and three tenants have gas space heaters.

800 gal. per month

Usage at present runs about 800 gal. per month, according to Mr. Witmer, although this is not all attributable to the tenants. The laundry is served off a separate main, which also delivers gas into the superintendent's quarters. Alongside the bulk tank is a bottle

filling station, which is used by Mr. Groff to supply trailers at Groff Mobile Home Sales, a trailer outlet located a mile or two away.

Average customer consumption is estimated at about 30 lb per month. Mr. Groff buys his gas from Mr. Witmer at 18½ cents per gallon and sells it to his metered customers at a base load rate of 12 cents a pound. Househeating users are on a 9-cent rate. A minimum of \$1.50 per month is charged.

Meters are read by the superintendent and billed monthly on a three-part form which bears the Pyrofax seal. In effect, if not in name, Mr. Groff has made himself a sub-dealer for Witmer.

Good dealer for park owner

For him, the deal is a good one. He figures his gross profit on the gas averages about \$2 per month. Once all the 160 lots are rented, this will add up to \$320. Besides, he gets gas at the same low price for his bottles and for the other

uses, such as the superintendent's home and the laundry.

Overhead chargeable to the gas service is negligible. The monthly meter reading can be handled by the part-time superintendent, who is at hand anyway. Hookups are quick and simple. The only charge of any magnitude is the bookkeeping and billing, which is handled as a part of regular office procedures in Mr. Groff's sales offices at the trailer lot.

Investment in the system is difficult to pin down. Costs for the service box, meter, regulator, and pig tail ran less than \$40 per unit. Added to this is a pro-rata on the mains and service piping used, with appurtenant gate valving. Labor for mains laying cost \$200 per "spot," but this figure represents a "package" which included sewage lines and water mains as well as gas.

LPG main layout

In its present state of development, the park is laid out in a sort of crescent shape, with squared-off ends. A single road runs through the park, looping

back at the far end to meet itself again at the entrance. The tank is located at one inside corner of the crescent, near the park entrance. From it, a single 1½ in. main, buried to a minimum depth of 2½ ft, takes off and cuts directly across the end of the arc. Three main laterals are brought off this line, each paralleling the main legs of the road and each serving a single row of homes. A separate line runs to the superintendent's house and the laundry.

When the park is completed, one or more additional tanks will be installed at the far end, and the three mains will be extended to join with it, so that the entire system can be fed with either or both ends.

Vapors are drawn from the tank and passed through a regulator, where they are reduced to 15 psi main pressure. With a main length of 1000 ft maximum, pressure drop has been negligible, according to Mr. Groff.

Seven gate valves are installed in the mains at distances of 500 ft maximum.

Total capital outlay for the en-

tire park, in its present state of development, runs \$1500 per unit, including the cost of the ground, grading, lawns, concrete apron and strips, and a pro-rata on the recreational and service facilities. On this investment, Mr. Groff is charging \$21 per month plus 25 cents for each child. On top of this is a township tax of \$2 per month and a 50 cent charge for tenants who have their own washing machines.

Natural gas available

Before he made a contract with Mr. Witmer, park owner Groff considered having the park piped with gas from the city utility. But he felt the charge which the utility wanted to levy for extending its main into the area was excessive. This would have been down the drain, as he would have received no revenue from it.

The customers are benefiting, too. They get a half-cent price break by using piped gas instead of bottles; if they heat with gas too, they get a 3½ cent advantage. But this saving is secondary to the convenience which they enjoy with piped gas. They enjoy the same service now as do city customers. There are no bottles to be kept filled, no worries about outages.

And it's a good deal for the LPG dealer. He didn't have to give away all his profits to get the account. ("We could get the gas cheaper," says Mr. Groff, "but I'd rather deal with Mr. Witmer.") There will be no price wars, because LPG dealer Witmer owns the tank. There is little danger of losing the account, because Mr. Groff has capitalized on the Pyrofax name. In one single deal, Mr. Witmer picked himself up an eventual 160 customers.

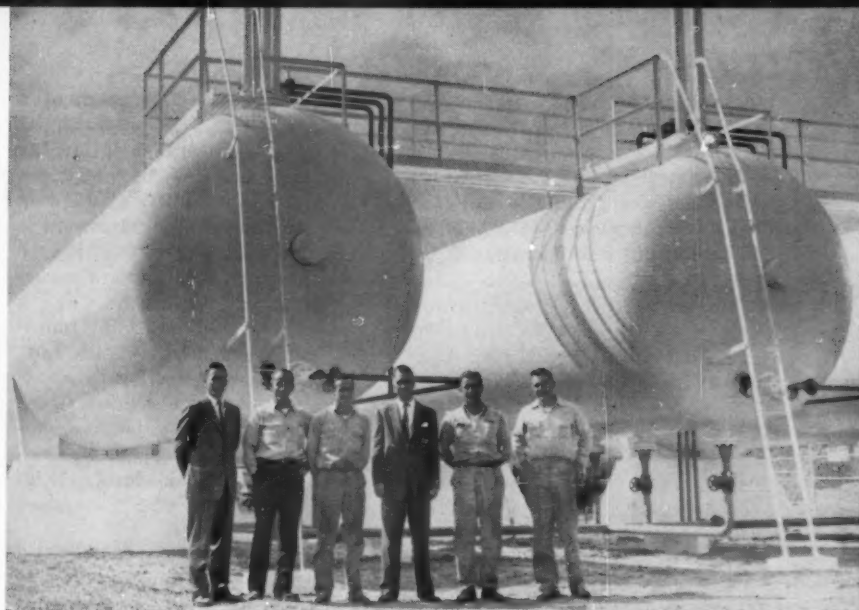
The trailer court is good business for everyone, and it typifies the trend in mobile homes toward permanence, stability, and more "gracious" living. Bright Meadows is no crowded, on-the-highway transient camp. It is a pleasant way of life set in delightful surroundings, a few hundred yards from the nearest main highway. It is a real community unto itself.

The trend is growing, gaining momentum. For the L.P. gas dealer, it represents a real opportunity for expansion. ■



Mr. and Mrs. Ray Groff look out over the sea of luxury mobile homes at their Lancaster, Pa., park. The swimming pool is typical of the excellent recreational facilities offered.

Bottled Gas Corporation of Virginia's Keswick, Va., tank farm's designer and builders stand in front of the three 74,000 gal. tanks. The designer is Fred Larson (third from left), engineer, L. P. Gas division, Shell Oil Co. The builders are all members of Bottled Gas Corp.'s staff. They are (left to right) T. E. Perkins, manager of the engineering department; Alvan T. Hazard, superintendent of the Richmond plant; William H. Perkins, industrial department service manager; and Edward V. Marston Jr. and Leon Tilley, engineering and industrial department salesmen.



Bottled Gas Corp. of Va. tank farm features three 74,000 gal. vessels

By E. O. N. WILLIAMS, President
Bottled Gas Corporation of Virginia

FOR six years The Bottled Gas Corporation of Virginia, Richmond, has explored various means of providing its plants and customers with adequate storage to see it through at least two weeks of peak wintertime consumption. We found our answer in a tank farm of three king-size tanks, each capable of holding 74,000 gal.

Before arriving at the decision to build what is probably the nation's first marketer-owned tank farm using API Pamphlet 2510 specifications, we tried such alternatives as sealing off an old rail-

road tunnel at Afton, Va.; then later we thought of using tanks lighter than those normally built for propane and installing them inside the cool atmosphere of the tunnel.

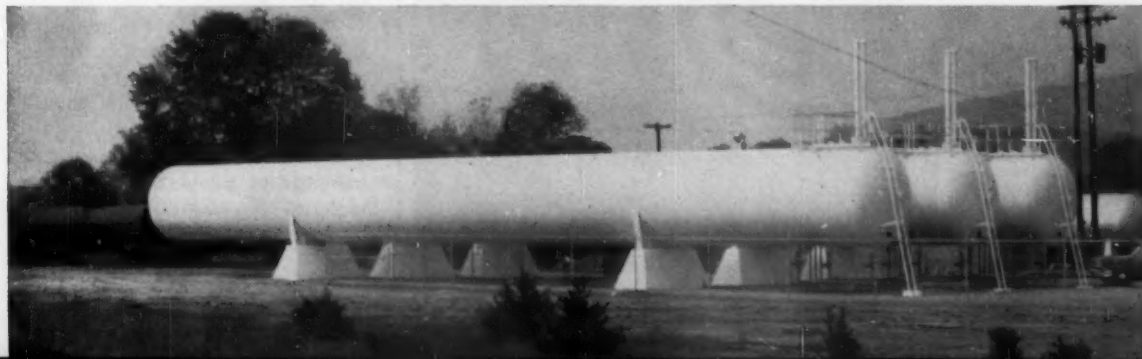
When these suggestions proved uneconomical, we turned to Pamphlet 2510 and created our battery of three 74,000 gal. containers. The result is the Bottled Gas Corp. tank farm at Keswick, Va., which began operations last month.

The location chosen, eight miles east of Charlottesville, was selected for its strategic location, from a

traffic manager's point of view, as being generally west of our main service area. Keswick, then, becomes a stop-over point on the rail route from southwestern producing points to ultimate destinations and so saves our company no small amount of freight charges, since we can re-ship the gas—where and when needed—for as little as \$14 a car over the through rate.

Shell Oil Co.'s L.P. gas division's engineer, Fred Larson, in conjunction with Bottled Gas Corp.'s engineering department, headed by T. E. (Tuck) Perkins, engaged in

The entire contents of 18 propane tank cars can be stored in these three tanks.



the design and construction of the LPG tank farm terminal after authorization by Bottled Gas Corp.'s management in July, 1958. Order for tanks was given and work on the plant commenced July 24. The plant was put into operation October 10.

The National Fire Protection Association's Pamphlet No. 58 (standards for the storage and handling of liquefied petroleum gases) and American Petroleum Institute's code, Pamphlet No. 2510 (the design and construction of liquefied petroleum gas installations at marine and pipeline terminals, natural gasoline plants, refineries and tank farms) were used as the basis for design and placement of equipment.

The economics related to plant equipment, operation and maintenance dictated the use of the largest horizontal storage vessels obtainable as single units, which

resulted in a special design of a vessel of 10 ft 6 in. diameter by 120 ft 10 in. overall length. The total capacity of 74,000 water gallons holds the equivalent of six standard propane tank cars. These vessels are the largest of this type ever constructed, and were manufactured by American Car & Foundry division of ACF Industries Inc., Milton, Pa. Each tank was shipped on three flat cars.

Three vessels of this design were erected on an area adjacent to facilities containing one 30,000 gal. tank of conventional design, holding the equivalent of 2½ standard propane tank cars.

There are more than 1000 welded connections and 73 valves in this plant, making it the most flexible in existence. The Shell Universal System for plant operation was selected, which features the following simultaneous operations:

(1) Unloading of tank cars (2 positions)

Unloading of transports (1 position)

(2) Filling bulk trucks (1 position)

(3) Filling 100 lb, 60 lb, and 20 lb cylinders

The pump house contains two compressors for operation (1), one bulk truck loading pump for operation (2), and one cylinder charging pump for operation (3) with multiple scales in the cylinder filling building.

The compressor piping system is arranged in a manner which permits the compressors to be mutually interchangeable for single service or operated simultaneously for maximum flow rates. The pump piping system is also arranged in a manner to permit either pump to perform operation (2) or (3) if required due to mechanical failure of either pump.

The overall plant piping system is designed to permit several auxiliary operations, as follows:

1. Unload transport via compressors when not equipped with self-contained pump
2. Load tank cars via compressors for re-shipment
3. Exchange product from tank to tank via compressors or bulk loading pump
4. Evacuate storage tank vapors via compressors for placement into any other storage tank in the event storage tank repairs become necessary.
5. Evacuate bulk truck of liquid and/or vapor into storage tanks for truck repairs
6. The system features a method of "liquid meter proving" by correlating meter flow with the pump output characteristics

At this plant, with the above system, two tank cars can be unloaded simultaneously in approximately 4½ hours and trucks can be loaded at a base rate of 100 gal per minute.

We estimate that by employing this type of storage, we saved better than 25 percent over similar capacity storage with smaller tanks.

We are very proud to be the first independent marketer to utilize tanks of this magnitude. ■

ACF's 120 ft tanks ride rails in record shipment

Three 74,000 gal. propane storage tanks, believed to be the longest ever fabricated and shipped intact by rail from factory to site, have been moved from Milton, Pa., to the Bottled Gas Corp. of Virginia at its Keswick, Va., terminal installation.

Built by the American Car & Foundry division of ACF Industries Inc., the 120 ft. tanks were transported 275 miles over the rights of way of four railroads and were delivered to the purchaser by the Chesapeake & Ohio. Each tank was loaded on three 50 ft flat-

cars and proceeded to its destination after special rail clearance arrangements had been made with the proper authorities.

According to Gregory J. Asbee, manager of ACF pressure vessel sales, such extra large storage tanks usually are built and shipped in two sections, and are welded together at the installation site. Complete fabrication of the tanks, which are 120 ft 10½ in. long and 10 ft 6 in. in diameter, was possible at Milton because they could be stress relieved in the plant's 125 ft long furnace.



Underground storage keeps growing

WHEN projects now underway are completed, underground storage capacity for L. P. gases in the United States will total almost 180 million gal., more than 42,558,000 bbl. This is a 20 per cent increase over capacity at this time last year and nearly double the capacity in 1956.

These figures were uncovered by the 1958 annual survey of LPG underground storage facilities conducted by *The Oil & Gas Journal*.

Increase in storage capacity during the past 12 months has been 8,671,290 bbl.

The *Journal* reports: "Construction of new storage caverns has been at a high level for nearly a decade now. The important aspect of the building, however, is that it shows little signs of slacking off. LPG producers and distributors alike are making more room for products not only in the southwest but also in the north and east near the big markets."

The trend is toward man-made caves instead of those washed out of salt formations. Reason is that salt formations like those found abundantly in the southwest are not so abundant in other parts of the nation. So bulldozers are at work carving out shale, chalk, or granite.

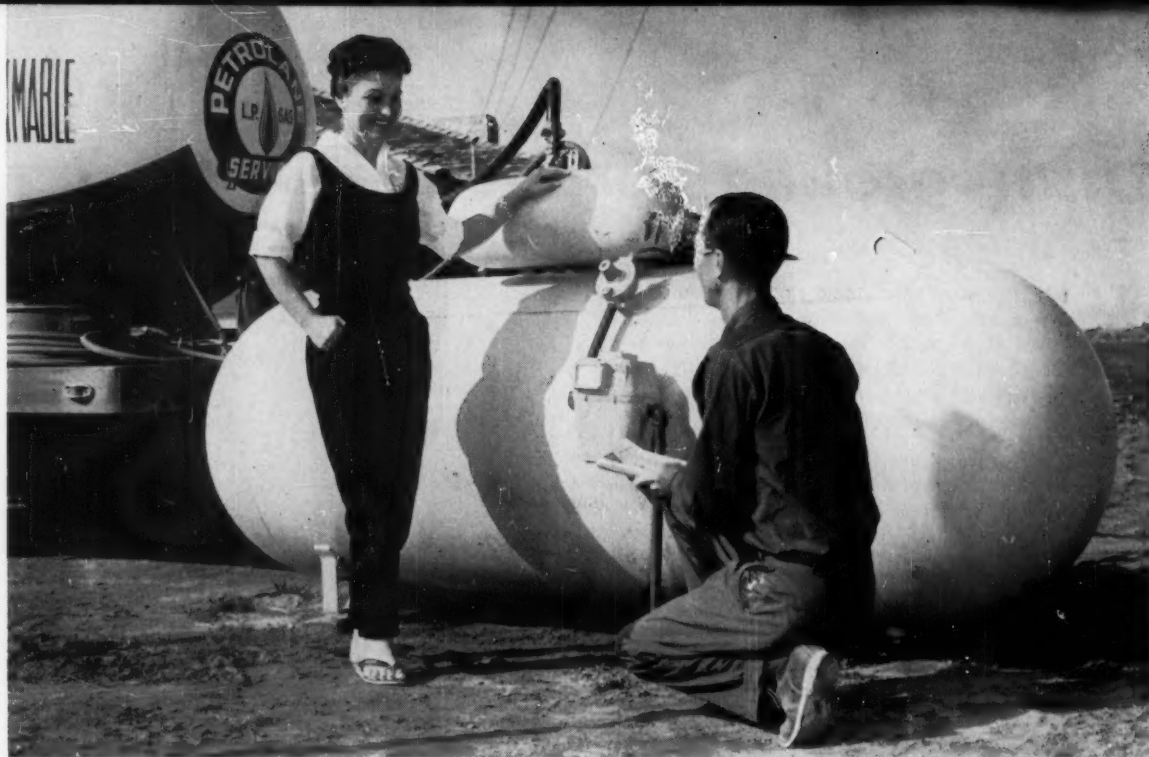
Nine new caverns are currently being developed. These include Sun Oil Co.'s granite cavern now under construction at its Marcus Hook refinery in Pennsylvania; Esso Standard Oil Co.'s shale caverns at its Bayway refinery in New Jersey; Texas Eastern Transmission Corp.'s Todhunter terminal storage near Middletown, Ohio; Columbia Hydrocarbon Corp.'s shale caverns at Siloam in eastern Kentucky; United Petroleum Gas Co.'s mined cavern in Pierce County, Wisc.; Tuloma Gas Products Co.'s salt cavern in Fort Bend County, Tex.; Cosden Petroleum Corp.'s salt dome storage expansion in Howard County, Tex.; Suburban Propane Corp.'s shale cavern in Newport County, R. I.; and Underground Storage & Exploration Inc.'s storage project near Mauch Chunk in eastern Pennsylvania.

While Texas, therefore, still has by far the most LPG storage of any state, 18 other states can presently boast of having underground LPG storage caverns in use or under construction.

LPG stocks, high at the end of last year, fell during the cold January and February which began 1958. Demand for LPG heating pulled stocks down below the same level of the year before.

Increased underground storage, coupled with the decrease in inventories during the past year, are resulting in a firm and rising price structure for LPG this winter. ■





Three steps to accurate vapor metering

By M. G. COOK
Rockwell Manufacturing Co.

ONE of the perennial problems faced by L. P. gas dealers is how to come out even on the amount of fuel bought from the producers and the amount billed to customers. There are certain small losses during transfers that are inevitable. But nearly all dealers are faced with losses that are considerably larger than can be accounted for by these physical losses. The average dealer is not getting paid for all of the gas that he delivers.

The cylinder operator who measures and sells gas by the pound generally has only his losses during transfer to worry about. The bulk dealer with a top-heavy winter load will generally experience rather heavy stock losses, while another bulk dealer having greater gallonage in summer than in winter may actually sell more gallons than he buys.

The reason for these differences

For an accurate vapor metering program:

1. See that the regulator and the distributor line to the meter have sufficient capacity to supply all appliances. Adjust the regulator to deliver pressure of 11 in. wc at the meter.
2. Find the average altitude of your marketing area. Locate the figure nearest this in the left hand column of Table 2. Follow across to the right hand column for the multiplying factor to use in correcting for pressure.
3. Determine the mean annual temperature for which to correct as indicated in the accompanying article. Select the multiplier given opposite this temperature figure from Table 3. Multiply this figure by the figure selected under step 2. This gives a single multiplier which compensates for both temperature and pressure, and indicates your average error in metering.

Applying this correction factor to the meter readings for the year will (1) give you the correct figure for the amount of gas sold through meters; (2) give you a more accurate accounting of actual stock losses during the transfers; and (3) enable you to establish rates whereby you can charge for all the fuel used by your metered customers.

is the effect of temperature, and its relation to the Btu content of a pound or a gallon. Assuming that the product is commercial propane of constant purity

throughout the year, a pound will always contain the same number of Btu's. But the Btu content of a gallon changes with the temperature. The supplier makes a



...friendship

Friendship between supplier and customer is of paramount importance. As we come to the end of another year we are grateful for the friendship and confidence our customers have shown in us.

To all we extend cordial greetings for the Holiday Season.

Sid Richardson

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TABLE 1. L. P. GAS CONVERSION CHART

Col.	Gas
1	Normal Butane - 3274 Btu/cf
2	80 percent Butane - 20 percent Propane
3	60 percent Butane - 40 percent Propane
4	40 percent Butane - 60 percent Propane

Col.	Gas
5	20 percent Butane - 80 percent Propane
6	Propane - 2519 Btu/cf
7	Natural Gas (1100 Btu)
8	Manufactured Gas (550 Btu)

EQUIVALENTS																
UNIT OF MEASURE	Decitherm				Cubic Foot				Gallon				Pound			
	Type of Gas				Type of Gas				Type of Gas				Type of Gas			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Decitherm	1	1	1	1	3.05	3.20	3.37	3.54	.096	.0989	.1012	.1038	.469	.468	.466	.465
Cubic Foot	.327	.312	.296	.282	1	1	1	1	.0316	.0308	.030	.029	.15	.146	.138	.131
Gallon	10.34	10.11	9.875	9.639	31.602	32.34	33.4	34.1	1	1	1	1	4.85	4.7	4.602	4.48
Pound	2.133	2.139	2.145	2.151	6.514	6.84	7.24	7.62	.206	.211	.218	.223	1	1	1	1

UNIT OF MEASURE	Decitherm				Cubic Foot				Gallon				Pound			
	Type of Gas				Type of Gas				Type of Gas				Type of Gas			
	5	6	7	8	5	6	7	8	5	6	7	8	5	6	7	8
Decitherm	1	1	1	1	3.745	3.9	9.09	18.18	.1063	.109	....	....	.4635	.4622	.445	.857
Cubic Foot	.267	.25	.11	.0540	1	1	1	1	.0282	.027	....	....	.123	.1113	.049	.047
Gallon	9.404	9.16	....	....	35.22	36.98	....	....	1	1	....	....	4.35	4.23	....	....
Pound	2.157	2.16	2.244	1.166	8.07	8.58	20.4	21.2	.229	.236	....	....	1	1	1	1

Temperature - 60° F.
Atmospheric pressure - (30 in. Mercury)

1 Therm = 100,000 Btu = 10 decitherm.
1 Gallon = 231 cu in.

correction for temperature at the time the fuel is loaded, so his billing will be in relation to a standard amount of Btu's. Thus in the winter, when the gallon has shrunk in physical volume because of low temperature, the billing is for more measured gallons than are actually shipped. In summer, when the fuel has expanded due to heat, the billing is for fewer gallons than are actually put through the meter.

Because of these temperature corrections the dealer is always buying standard gallons. He pays for the number of gallons that he would receive if the fuel could be measured and transported and unloaded at 60 deg. F. His loss or gain in reselling the fuel to the customers is made up of the sum of the actual physical losses during transfers and the effect of the temperature difference above or below 60 deg. F. Thus, in delivering liquid fuel the only variable for which compensation is needed is temperature.

In delivering fuel through vapor meters there are other variables which affect the dealers' stock losses or gains.

A gas meter measures the cubic feet of vapor that pass through it.

The cubic foot does not change. It is always the same, regardless of the weight, density or physical content of the vapor. The actual amount of gas in the cubic foot will vary with the temperature and pressure at the time of measurement. Both these factors affect the density of the gas in the meter.

The effect of temperature is constant at all altitudes, but the actual density changes due to pressure are related to the combined effect of line pressure and atmospheric pressure. The line pressure may be read on a gauge or water monometer, but atmospheric pressure changes with altitude. The gauge measures only the pressure above atmospheric pressure.

Changes of pressure due to altitude are compensated by calculating from the standard atmospheric pressures at the different altitudes. There is less gas, measured in Btu's, in a cubic foot at Denver than in a cubic foot measured at New Orleans.

The purpose of this article is to present the simplest practical method of bringing the billing for gas sold through meters in vapor form into balance with gas bought

in liquid form and paid for on the basis of standard liquid temperature corrections.

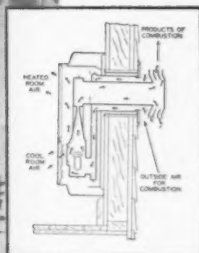
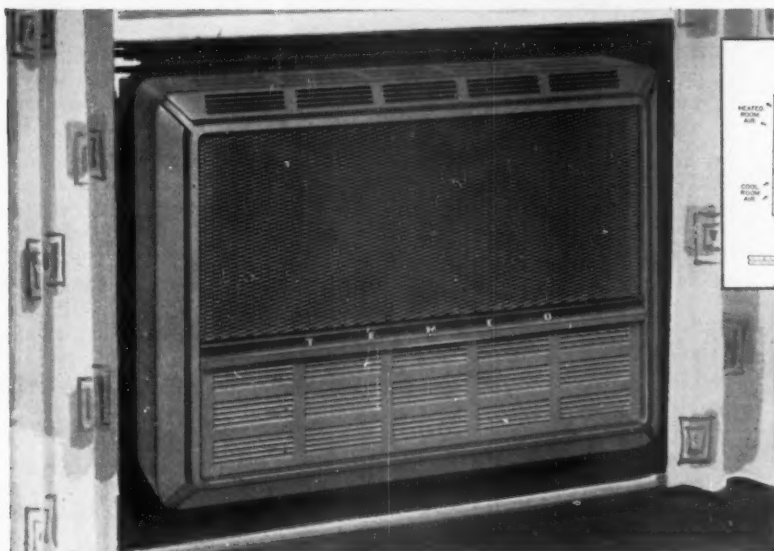
Again assuming that the product is uniform throughout the year, the first step in correcting for variables is to eliminate the one variable that can be controlled. This is the delivery pressure through the line at the meter. To do this we must use a line of ample capacity to supply all gas consuming appliances or equipment beyond the meter. We must also use a regulator that can supply all of the fuel needed without appreciable pressure drop. Use of an undersized regulator can result in erratic metering as well as service problems. Within practical limits of cost, the larger the regulator, the steadier the line pressure will be, and the more accurate the metering will become. Regardless of how big the regulator is, it should be set to deliver the standard pressure (11 in. wc) at the meter.

We now come to the variables for which compensation must be made by calculation. Here we are handicapped by the lack of suitable standards that are universally accepted in the industry. Standards do not fully agree as to

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You sell low-cost operation:

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cubic feet of vapor per gallon or per pound of liquid, or Btu's per cubic foot, gallon or pound, etc. for butane or propane or the standard commercial mixtures. It may be that sometime in the future such standards for the industry will be established and recognized. Several bodies are now working on this problem, so we can at least hope.

In the meantime we are including here the values that seem to be most widely accepted, and which have been used by the Rockwell laboratory as the basis for many of our indexes. *Table 1* gives the equivalents that we use in our metering work with various gases.

Each dealer must determine

Until such time as accepted standards are available it becomes necessary for LPG dealers selling through meters to determine exactly what composes the standard cubic foot that he proposes to meter. That is, at his standard distribution pressure, average altitude, and average temperature, his cubic foot of gas will contain X number of Btu's. This number

of Btu's will need to be determined by applying the conversion factors for pressure, altitude and temperature to the standard cubic foot that he is buying, as determined by his billing from the source. This might be, for example, 2520 Btu at 60 deg. F and 14.73 psi atmospheric pressure. (These are the corrections that are commonly used in billing shipments.)

Now let us consider some examples that show the effect of different pressures and temperatures on the actual Btu content of that gas as it goes through the vapor meters.

For all practical purposes we can combine the effects of altitude and line pressure. The two go hand in hand, and we cannot separate their effects. We are interested only in the "absolute pressure" of the gas, which is the pressure above zero, and this includes line pressure and the barometric difference due to altitude.

Examples

Example 1. Assume that one pound of propane will give 8.58 cu ft of vapor at 60 deg. F and a

barometric reading of 30 in. of mercury, which is the same as 14.73 psi (absolute). If your meter operates at an altitude where the local atmospheric pressure averages 14.33, and at a distribution pressure of 11 in. wc (.4 psi), the total absolute pressure would be 14.73 psi, which would give 8.58 cu ft per pound. The fuel is going through the meter under the same pressure used in the supplier's billing, and no correction for altitude is therefore necessary.

Example 2. Now, suppose that this fuel is being metered at sea level, where the average atmospheric pressure is 14.69 psi absolute, and with 11 in. wc or .4 psi distribution pressure. This would equal 15.09 psi absolute. With this slightly higher pressure, the volume of the original cubic foot of gas would be slightly decreased, and the measured cubic foot of gas would contain a few more Btu's. Following Boyle's law we arrive at the formula: 8.58 times 14.69 divided by 15.09 equals 8.35. Now we apply the factor: 8.58 over 8.35 to correct the meter reading. This tells us that 1 cu ft as measured through the meter should be billed as 1.024 standard cu ft of gas.

Example 3. Now let's move that meter up to Denver, where the average atmospheric pressure is 12.0 psi. Here the standard cubic foot of L. P. gas vapor is lighter and contains fewer Btu's. In this case we have 12.0 psi atmospheric pressure plus .4 psi distribution pressure, or 12.4 psi absolute pressure. To correct the meter reading here, the formula is 8.58 times 14.73 divided by 12.4 equals 10.2. The correction factor would therefore be 8.58 divided by 10.2 equals .841 times the actual meter reading to give the cubic feet at standard conditions.

This shows the way the correction factors are determined. With the formula established, it becomes a simple matter to work out a conversion table from which the multiplying factors may be selected to fit any combination of altitude and distribution pressure. Such a table is included as *Table 2*.

These corrections are for pres-

TABLE 2. PRESSURE CONVERSION TABLE OF ALTITUDE (OR ATMOSPHERIC PRESSURE) PLUS DISTRIBUTION PRESSURE

Altitude	Pounds Per Sq. In.	Absolute Pressure at 11" wc Distribution Pressure	Multiplying Factor
0	14.69	15.09	1.024
100	14.63	15.03	1.020
200	14.58	14.98	1.017
300	14.53	14.93	1.014
400	14.47	14.87	1.010
500	14.42	14.82	1.006
600	14.37	14.77	1.003
700	14.32	14.72	.999
800	14.26	14.66	.995
900	14.21	14.61	.991
1000	14.16	14.56	.988
1200	14.05	14.45	.980
1400	13.95	14.35	.974
1600	13.85	14.25	.967
1800	13.75	14.15	.960
2000	13.65	14.05	.953
2200	13.55	13.95	.947
2400	13.45	13.85	.940
2600	13.35	13.75	.933
2800	13.26	13.66	.927
3000	13.16	13.56	.920
3200	13.07	13.47	.914
3400	12.97	13.37	.907
3600	12.89	13.29	.902
3800	12.79	13.19	.895
4000	12.69	13.09	.888
4200	12.60	13.00	.882
4400	12.51	12.91	.876
4600	12.42	12.82	.870
4800	12.32	12.72	.863
5000	12.23	12.63	.857



Merry
Christmas

and a Happy
New Year



SINCLAIR OIL and GAS COMPANY
Liquefied Petroleum Gas Sales Department
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sure only. Temperature also has an effect on the Btu content of a cubic foot of gas. In the winter, when the domestic heating customer uses more gas than in the summer, the LPG vapor becomes more dense due to its lower temperature. It contains more Btu's as its temperature goes down. Since LPG is purchased on the basis of 60 deg. F and 0 pressure, any variation above or below 60 deg. in the metering will cause a discrepancy between the amount purchased and the amount sold, unless the necessary correction factor is applied. This is the most serious cause of gas losses in metered service.

Gas utilities have also encountered this problem. At one time they gave very little thought to the effect of temperature on metering. Resultant losses were merely listed as "unaccounted gas losses." As natural gas replaced manufactured gas and the meters were placed out of doors, the discrepancies became greater and

studies were made to determine the effect of outdoor placements on the accuracy of metering. Many of the utilities have made extensive studies of temperature effects based on mean temperature and volume used over a year's period to determine the correction factor that they should use to compensate for the total annual effect. Most companies still expect to take this into account on the rate structure, knowing their unaccounted will increase.

In metering LPG, the same temperature effect is obvious, since meters are generally placed outdoors. With 2519 Btu instead of the 1000 Btu of natural gas, the loss per cubic foot is nearly 2½ times as great in terms of heat content. Percentage-wise it is the same as with natural gas.

Single correction factor

Since it is obviously too burdensome to calculate a correction for each bill to compensate for the temperature during the interval

between successive meter readings, a single correction factor should be worked out to compensate for the average temperature differences during the entire year.

Perhaps a utility gas company in your vicinity has already made this calculation and can give you the figure at which it has arrived. (In Pittsburgh, Pa., the meter readings before correction show just under 5 per cent loss.) If the ready made figure can not be obtained, then it should be calculated on the basis of the average mean temperature for the months of heavy usage, modified if necessary for the average temperature and amount consumed during the warm months.

For your help we are including Table 3 showing the effect of temperature on the volume of gasses. This works out according to Charles' Law, and shows a difference of about 1 per cent for each 5 deg. change of temperature.

We are often asked why it would not be possible to design a propane meter which would automatically compensate for all of these variables. This could be done but it would not be economical. It would require an integrating device which would have the effect of changing the gear ratio for every change in temperature, atmospheric pressure, and line pressure. Such a mechanism would also require maintenance service by a highly skilled technician. Calculating the proper correction factor is much simpler and less expensive. After the correction factor is known, it is only necessary to adjust the base rate per cubic foot, per therm, or whatever basis you use, to recover the right amount to offset the meter discrepancy, and no more calculation is required.

It does not take a very large operation where winters are severe to show an annual saving of several hundred dollars as the result of making these corrections.

Table 1 may be used to convert from one unit of measurement to any other unit, and to permit you to make the correct calculations in case you use a different fuel in summer than in winter, or a mixed fuel on a year-round basis. ■

TABLE 3. FACTORS FOR USE IN CONVERTING VOLUMES OF GASES AT VARIOUS TEMPERATURES TO BASE TEMPERATURE OF 60° F.

Temp. °F.	Multiplier	Temp. °F.	Multiplier	Temp. °F.	Multiplier
0	1.1309	36	1.0486	72	0.9774
1	1.1285	37	1.0464	73	.9755
2	1.1260	38	1.0443	74	.9737
3	1.1236	39	1.0422	75	.9719
4	1.1211	40	1.0401	76	.9701
5	1.1187	41	1.0381	77	.9682
6	1.1163	42	1.0360	78	.9664
7	1.1139	43	1.0339	79	.9646
8	1.1115	44	1.0319	80	.9628
9	1.1091	45	1.0298	81	.9611
10	1.1068	46	1.0278	82	.9593
11	1.1044	47	1.0257	83	.9575
12	1.1021	48	1.0237	84	.9557
13	1.0997	49	1.0217	85	.9540
14	1.0974	50	1.0197	86	.9522
15	1.0951	51	1.0177	87	.9505
16	1.0828	52	1.0157	88	.9488
17	1.0905	53	1.0137	89	.9470
18	1.0882	54	1.0117	90	.9453
19	1.0859	55	1.0097	91	.9436
20	1.0836	56	1.0078	92	.9418
21	1.0814	57	1.0058	93	.9401
22	1.0791	58	1.0039	94	.9384
23	1.0769	59	1.0019	95	.9367
24	1.0746	60	1.0000	96	.9351
25	1.0724	61	0.9981	97	.9334
26	1.0702	62	.9962	98	.9317
27	1.0680	63	.9942	99	.9300
28	1.0658	64	.9923	100	.9284
29	1.0636	65	.9904	101	.9267
30	1.0614	66	.9886	102	.9250
31	1.0593	67	.9867	103	.9234
32	1.0571	68	.9848	104	.9217
33	1.0550	69	.9829	105	.9201
34	1.0528	70	.9811	106	.9185
35	1.0506	71	.9792	107	.9169



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Don't keep costly inventories. Sell a tank today and it will be placed on shipment the same day. Overnight shipments from either Master plant can be made to practically any point in the United States. Less freight costs means lower prices. Order from your nearest Master plant . . . QUINCY, ILLINOIS or DALLAS, TEX.



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STEEL FABRICATION



2000 S. Front St. • Quincy, Illinois • Baldwin 3-5014
P. O. Box 5146 • Dallas, Texas • Riverside 7-2441

Order your storage and transports from the Master plant nearest you. Shipments made by truck, railroad or low cost river barge.



TRANSPORTS



TANK TRUCKS



STORAGE



DOMESTIC



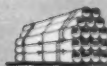
FILLING STATIONS



FARM CARTS



REFINERY



LINE PIPE

10 TIPS



for Bulk Plant Safety



Pat Griffin, Fort Collins, Colo. who believes in safety first, last and in between time.

Photos and text
By J. ARTHUR THOMPSON

PAT GRIFFIN has spent 24 of his 43 years with the Phillips Petroleum Co.; 19 of them in his present location at Fort Collins, Colo. He has handled "Philgas" for the last three years. In his entire career as a jobber and dealer, he has never had an accident with either gasoline or L.P. gas.

Griffin is a firm believer that "Safety Pays." To quote him: "A good safety program not only lets

you sleep nights, it cuts your insurance premiums."

Pat takes the safety program and the enforcement of it around his bulk plants and 21 service stations as his personal responsibility. He believes that the head of the firm should take the initia-

tive in setting safety standards and in enforcing them. If the boss isn't vitally interested and concerned, no one else is likely to be.

Good housekeeping on every side is strictly enforced. Trash is not allowed to collect. Even on a late autumn day with the wind swirling dead leaves here and there, very few are found around the bulk plant or buildings. They simply are not allowed to accumulate.

A tight fence around a bulk plant is a necessity. It keeps away the prowler and the sneak thief, and more important, it keeps out the small boys who "didn't know it was loaded." The five gates to the Griffin L P bulk plant are kept chained and locked.



call on BIG JOE and
his friends for those
BIG JOBS



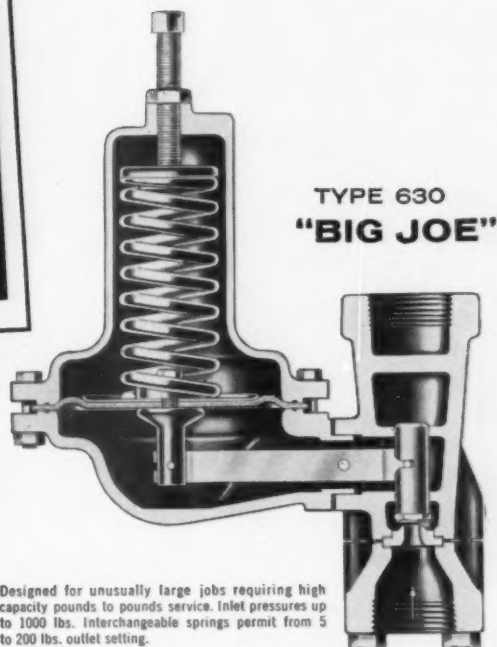
REGULATORS

SPECIFICALLY DESIGNED FOR
COMMERCIAL, INDUSTRIAL
and
STAND-BY SERVICE

LPG men in the know depend on Little Joe for their cylinder and small tank controls. When it comes to those big jobs that require regulation of anywhere from a few feet per hour up to 100,000 c.f.h. and more ... smart operators call on BIG JOE and his friends.

Whatever your problem may require, from a small cylinder valve up to the big regulators pictured here ... remember, you've got it under control when you install a FISHER product.

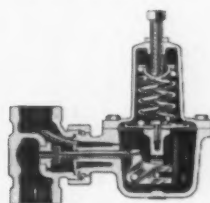
Bulletins describing FISHER heavy duty LPG equipment are yours for the asking.



TYPE 630
"BIG JOE"

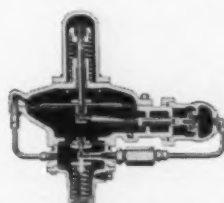
Designed for unusually large jobs requiring high capacity pounds to pounds service. Inlet pressures up to 1000 lbs. Interchangeable springs permit from 5 to 200 lbs. outlet setting.

TYPE 620



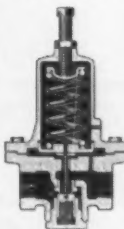
Designed especially for 1st stage reduction in large 2 stage installations. Capacity 2500 cubic feet. (6,250,000 BTU per hour.) Normal reduced pressure 15 psi, interchangeable springs for settings up to 60 psi.

TYPE 99



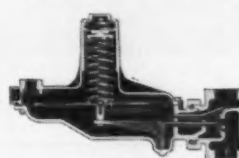
Designed to handle almost any pressure reduction job from a few feet per hour up to 100,000 c.f.h. Inlet pressures to 250 lbs. Available with outlet pressure settings from inches of w.c. to 100 lbs.

TYPES 95H & 95L

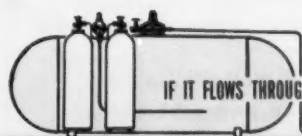


Designed to reduce full tank pressures down to intermediate pressures in pounds. Operates on either gas or liquid propane vaporizers, crop dryers and other large volume applications.

SERIES 730B-32



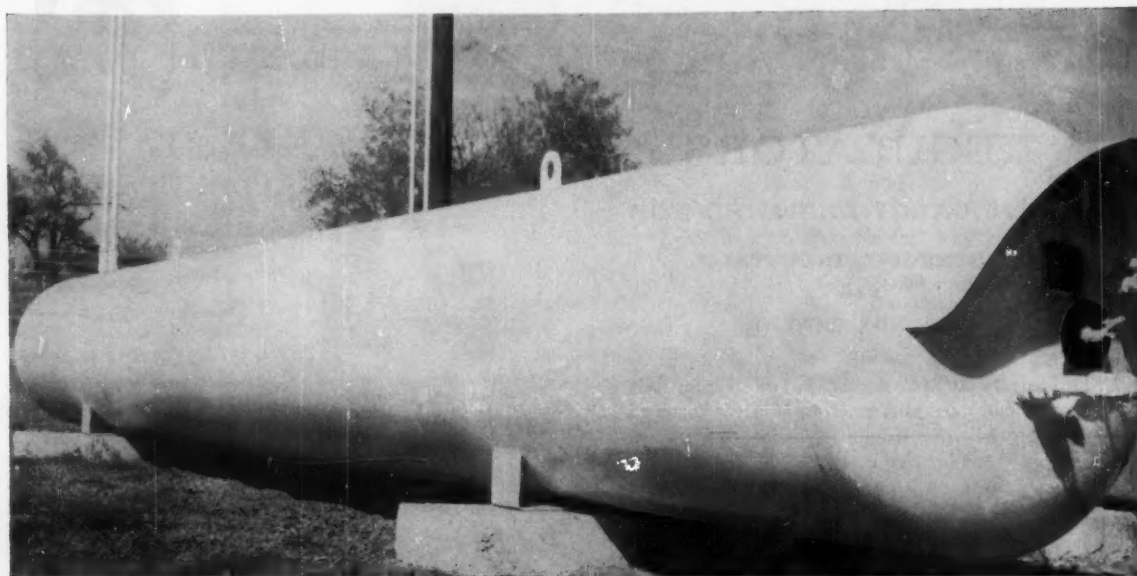
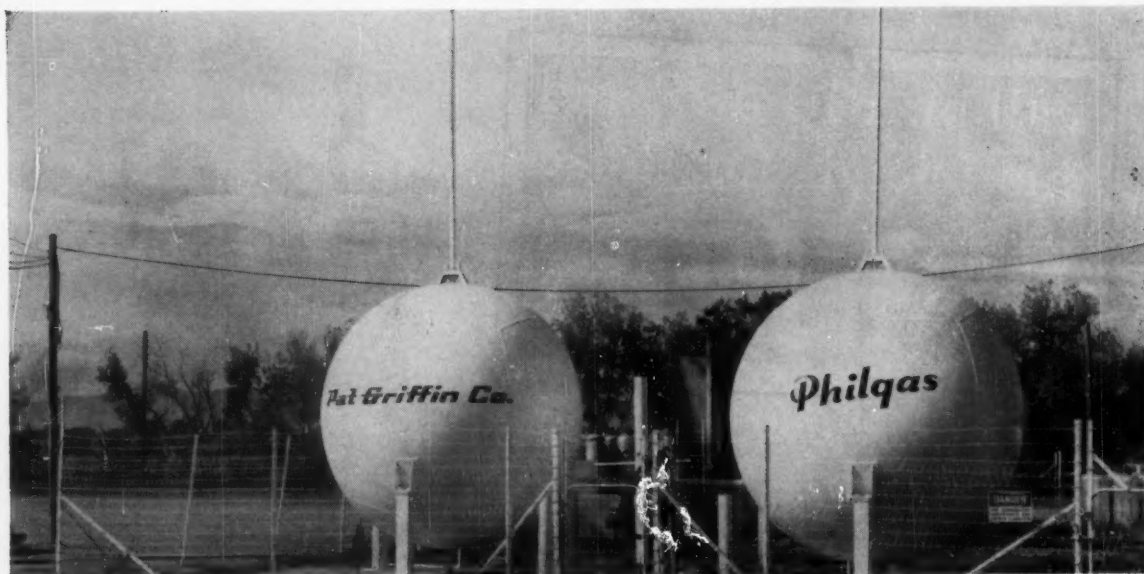
Designed for an ideal second stage regulator for inlet pressures up to 150 psi. Widely used on ovens, furnaces and boilers where precision regulation is demanded. Available in 1½" and 2" sizes.



IF IT FLOWS THROUGH PIPE ANYWHERE IN THE WORLD ... CHANCES ARE IT'S CONTROLLED BY

FISHER®
Controls

FISHER GOVERNOR COMPANY Marshalltown, Iowa



Storage tanks are solidly bolted to heavy concrete bases. The tanks are set at more than the required distance from the highway and from all other buildings.

Delivery and service trucks are kept in tip-top mechanical shape by Griffin's own maintenance department. They are kept well painted and clean at all times. The driver-salesmen can always take pride in their vehicles.

Fire extinguishers on trucks are kept in approved and easily accessible locations. They have canvas covers to protect them from the mud, oil and dirt of the roads.

While not a direct safety fea-

ture, trucks are equipped with two-way radios. Drivers can always contact the office to clarify instructions or receive messages. The two-way radio contributes much to efficiency and indirectly to overall safety.

"No smoking" signs are liberally scattered around the bulk plant and they are rigidly enforced. Anyone caught with a lighted cigarette within fifty feet of the fenced area is due for a scorching

from Pat Griffin, no matter who it may be.

If there is any safety feature in his establishment that has been overlooked, Griffin would like to know about it. ■

**Photos continued
on pages 51 and 52.**



SIGN OF A SOLID FUTURE...WITH DEPENDABLE SUPPLIES IN A GROWING MARKET

More LP-Gas Distributors are teaming up with Texaco for the long haul because they are assured of dependable supplies—Texaco is one of the largest producers. And the market is expanding. In 1950, less than 3.5 billion gallons were sold. By 1960 the demand

is expected to reach 8 billion gallons—9.5 billion by 1965.

If your goal is a solid future, consider this fact: 683 distributors of Texaco products have been with us for 20 years or more—many others for as long as 45 years—proof it pays to team up with Texaco.

5 reasons why it pays to be a TEXACO LP-Gas Distributor

1. Dependable and efficient delivery, in a new fleet of tank cars—from 25 strategically located production areas.
2. A product of highest quality—moisture free.
3. Immediate acceptance, Texaco LP-Gas

carries the nationally-known, famous trade-mark, Texaco.

4. One of the largest producers of LP-Gas, The Texas Company is the only petroleum company to build up successful distribution of its products in all 48 states.

5. Profitable and proved sales policies. Texaco markets only through independent distributors.



TEAM YOUR NAME with Texaco and profit . . . faster! Call or write Texaco today . . . The Texas Company, LPG Sales Division, P. O. Box 2420, Philtower Bldg., Tulsa, Okla., Diamond 3-4101—3350 Wilshire Blvd., Los Angeles 5, Cal., DUnkirk 5-0515.

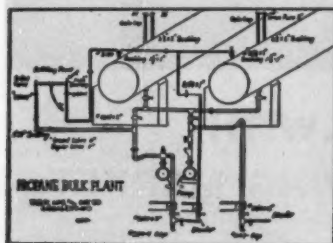
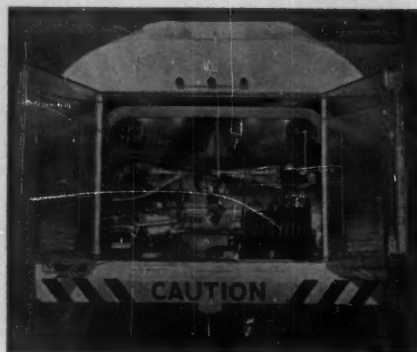


**Your One Supplier with everything in L. P. gas
and Anhydrous Ammonia Equipment**



"The Loadmaster" LPG Truck Tank

PASLEY-DESIGNED Truck Tanks (see above and right) were first to feature all controls from one location. All operation is from one point—rear compartment.



BULK PLANTS Pasley LPG and Ammonia type installations—a turnkey job or engineering for your own installation. Write, wire or call.

Also a complete line of accessory equipment.

"Pastels By Pasley"

COLOR—The Modern Trend! Bring your LPG Equipment up to date. Available in the following colors . . . (write for information)

Blush Peach	Smoky Grey
Sunshine Yellow	Seafoam Blue
Mustard Lime	Wedgeood Green
Eureka Orchid	Rose Beige
Lake Blue	Desert Rose



EVERYTHING IN LPG AND ANHYDROUS AMMONIA

The Pasley Mfg. & Dist. Co.

401 East 11th Street • Kansas City, Mo. • Tel. Victor 2-2360

CALENDAR

**Coming events
in the Industry**

1958

December 2—Wisconsin LPGA Convention—East Side Business Men's Association Club House, Madison, Wisc.

1959

January 11-12—Arkansas LPGA Mid-Winter Meeting—Hotel LaFayette, Little Rock, Ark.

January 14—New York State LPGA Annual Convention—Hotel Van Curler, Schenectady, N. Y.

January 26-28—65th Annual Meeting of the American Society of Heating and Air Conditioning Engineers and the 14th International Heating and Air Conditioning Exposition under the auspices of ASHAE—Bellevue-Stratford Hotel, Philadelphia, Pa.

March 8-10—Indiana LPGA Trade Show and Convention—Claypool Hotel, Indianapolis, Ind.

April 9-11—Western Liquid Gas Association Tenth Annual Convention and Trade Show—St. Francis Hotel, San Francisco, Calif.

April 20-23—Texas Butane Management Institute—Sponsored by the University of Texas—Fort Clark Guest Ranch, near Brackettville, Texas.

May 3-6—Liquefied Petroleum Gas Association 28th Annual National Convention and Trade Show—Conrad Hilton Hotel, Chicago.

May 19—Maryland LPGA Annual Convention—Lord Baltimore Hotel, Baltimore, Md.

September 13-15—North Carolina LPGA—Sir Walter Raleigh Hotel, Raleigh, N. C.

October 12-14—Northeast Regional LPGA and Trade Show—Sheraton Park Hotel, Washington, D. C.

All associations are invited to send in dates of their forthcoming meetings for this calendar.

Announcing Honeywell's new WATER HEATER CONTROLS



The world's finest
Water Heater Controls
are now even finer...

Here's why:

- ★ **Pressure regulator built right into control**—properly located in gas stream. Models available without pressure regulator.
- ★ **Safe lighting interlock** prevents accidental turning of gas cock to *off* position once it has been put in *pilot* position. And pilot can only be cocked in pilot position of knob.
- ★ **Universal Duofilt filter**—the same filter resists clogging by both dust and gum, works on all gases. Included at no extra cost. AGA listed.
- ★ **Top setting** of both temperature and gas cock gives greater convenience, eliminates stooping and squatting.

Deluxe model, V5131. Available with long or short element or tube—with or without pressure regulator.

Honeywell



First in Control



In Water Heater
Controls—you
have more to sell
when you sell
Honeywell

Turn
Page

No stoop—
no squat—
because the
settings
are on
top



**Honeywell's new line
of Water Heater Controls are
made to sell easier,
sell more!**

Now you can offer water heater controls that are not only strikingly handsome, but also offer the latest improved features, such as built-in pressure regulator—plus greater convenience and ease of adjustment.

Honeywell's all new Water Heater Control line is available at no increase in price.* Get complete information by calling your local Honeywell office. Or write Honeywell, Dept. 80, Minneapolis 8, Minnesota.

**Slight additional charge for models featuring built-in pressure regulator.*

Standard model, V5130. Available with long or short element or tube, with or without pressure regulator.

Honeywell



First in Control

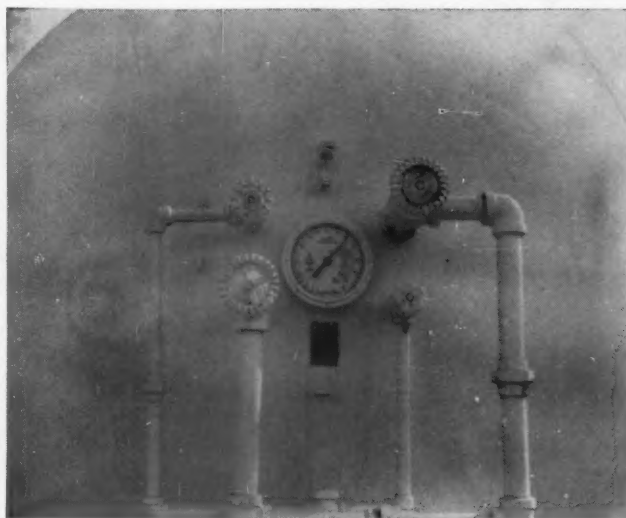


**In Water Heater
Controls—you
have more to sell
when you sell
Honeywell**

Bulk plant safety . . . If the boss isn't interested and concerned about safety, no one else is likely to be



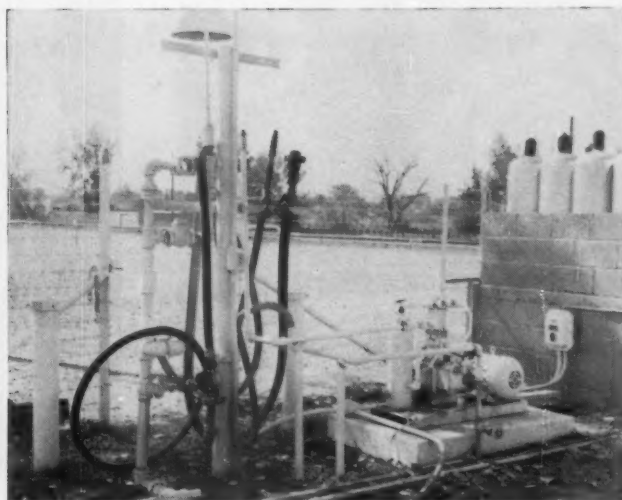
Stacks on pressure relief valves carry any fumes high for safe dispersal.



All gauges and valves are located for easy access.



Loading rack piping (left) is firmly anchored to heavy steel upright buried deep in concrete. Pipe won't break if someone forgets to disconnect before starting off. Note the heavy upright pipes on each side and in front of the loading rack. If a car or truck rams into the fence, these deeply buried steel pipes will protect loading rack.



One of two Corkin pumps in use. Both are set on concrete foundations. Safety switches and explosion proof motors, of course.

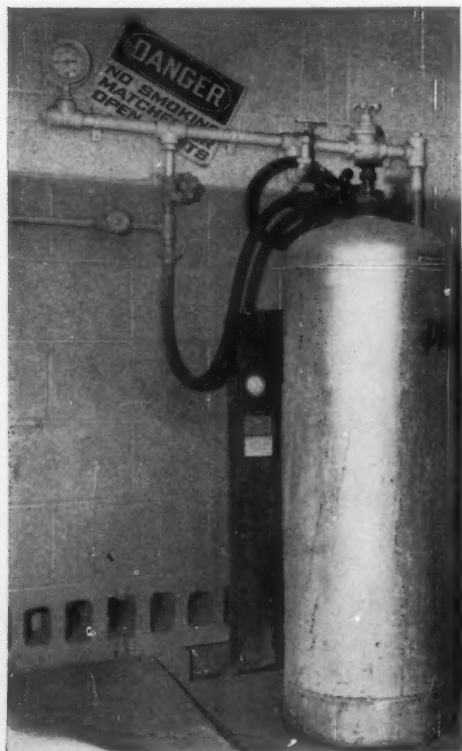
Bulk plant safety . . . If there is any safety feature that has been overlooked, Mr. Griffin would like to know about it



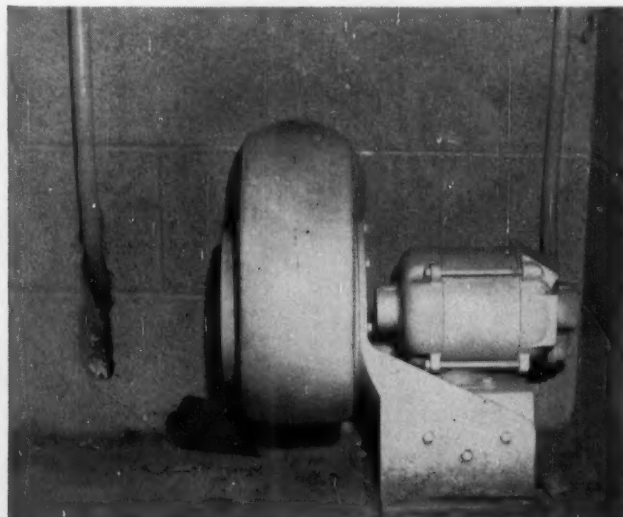
In loading or unloading, truck wheels are chocked; a precaution too many times omitted.



In disconnecting hoses, gloves **MUST** be used. A driver laid up with a "burned" hand is not very productive!



The open bottle filling house (left) is all concrete, including the roof. Note the bottom tier of concrete blocks are laid on the side to furnish floor ventilation. No heat is used in the building.



An exhaust fan is set in the corner as an additional aid in pulling fumes from the bottle filling house. Fumes are carried by an outside vent to a point above the roof.

POWELL

world's largest family of valves



Fig. 86196—Steel Horizontal Lift Check Valve. Screwed cap, stainless steel spring guided disc holder, and renewable screwed-in seat rings.



Fig. 8150—Bronze L.P.G. Globe Valve, Union Bonnet, integral seat.



Fig. 8158—Bronze L.P.G. Horizontal Lift Check Valve. Screwed cap; integral seat.



Fig. 86191—Steel L.P.G. Angle Valve. Union bonnet, screwed-in nickel bronze seat rings.



Fig. 86190—Steel L.P.G. Globe Valve. Union bonnet, screwed-in nickel bronze seat rings.

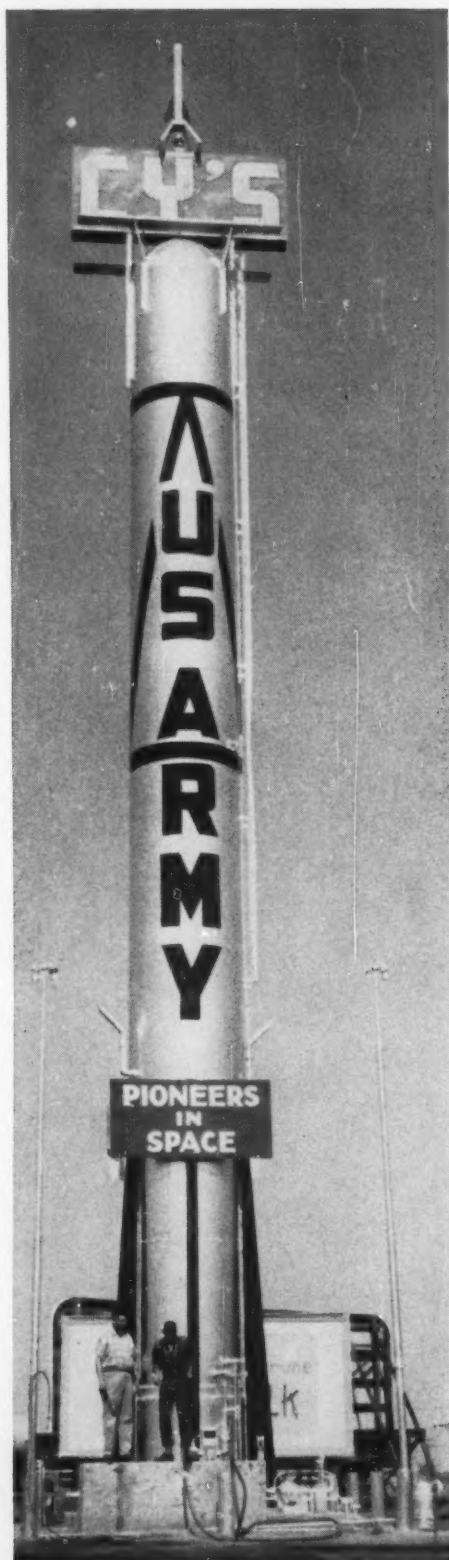


Fig. 8151—Bronze L.P.G. Angle Valve. Union bonnet, integral seat.

Powell L.P.G. Valves are fitted with a special composition disc and are rated 400 W.O.G. Bronze Globe and Angle Valves are also available with screwed-in nickel bronze seat rings. All valves are listed by Underwriters' Laboratories, Inc.

FOR EVERY FLOW CONTROL PROBLEM Powell offers more kinds or types of valves, available in the largest variety of metals and alloys, to handle every flow control requirement. Your local valve distributor will be glad to tell you all about them. Or write to us for the full facts.

THE WM. POWELL COMPANY • Dependable Valves Since 1846 • Cincinnati 22, Ohio



Standing 97 ft tall, with a sign and tiny missile, this 15,000 gal. butane storage tank belonging to Cy Laskey, owner of Cy's Truck Stop, just north of Fresno, Calif., looks amazingly like the Army's Jupiter C rocket ready to launch another satellite into outer space.

Butane tank serves as Army recruiting aid

By B. E. LOVELL

WOULD you like to have an organization with a publicity and public relations staff of several thousand persons walk into your place and say, "Hey, Mac, we'd like to really put you on the map—how about it?"

Well, it could happen. It happened to Cy Laskey, owner of Cy's Truck Stop located on Highway 99 and Herndon, just north of Fresno, Calif.

One day Cy was peacefully pumping away 20-25,000 gal. of L. P. gas per month to passing truckers, autoists and trailerites, the next he was a partner with the U. S. Army in its efforts to enlist the young men of America under its banner, and Cy's Truck Stop was on its way to becoming known throughout the United States.

And all because he had his 15,000 gal. butane storage tank installed vertically instead of horizontally, making the tank look "amazingly like our satellite launching Jupiter C rocket," according to U. S. Army Sergeant Arthur A. Thrall, who handles public relations for the army recruiting service in the San Joaquin Valley.

Cy Laskey, who opened the station four years ago, when he lost his lease on a similar station south of Fresno, is happy, but a trifle confused about the whole series of events. Newspaper photographers, TV cameramen, tourists and regular customers have been jamming the station since the Army added a tiny missile to the top of the tank, then painted it to increase the illusion of a Jupiter C rocket all poised to take off into outer space.

"The Army did all the painting and will take care of the upkeep," Laskey says, "but I'll provide the current for the lights they're going to put up so that the tank will show up better at night."

Which makes a pretty fine arrangement, all around—but what is more important, should give *you* an idea if you happen to have a vertical tank of considerable height standing in front of your place, for now that the ground has been broken in Fresno, it probably will not be difficult to convince the Army recruiting staff in your area to do a similar job for you.

To paraphrase an old saying, "Join the Army, and the world'll see you!"



Philgas* is America's largest selling LP-Gas!

Way ahead in volume of sales! Way ahead in consumer acceptance. Philgas is the easiest-to-sell LP-Gas in America!

Philgas Distributors enjoy the dollars-and-cents benefits from Phillips powerful, widespread advertising in magazines and radio. Phillips tested, business-building programs include sales films, a practical, "new customer" plan and a planned delivery system.

Thanks to Phillips full-scale production and modern transportation facilities, you are assured of a dependable source of supply and on-time deliveries.

If you are interested in a profitable business in the fast-growing LP-Gas field, get in touch with your nearest Phillips Sales Office right away. Or write and find out how you can make money as a Philgas Distributor.

*Philgas is the Phillips Petroleum Company trademark for its high quality LP-Gas (propane, butane).



PHILLIPS PETROLEUM COMPANY

SALES DEPARTMENT, Bartlesville, Oklahoma

SALES OFFICES:

AMARILLO, TEX.—First Nat'l Bank Bldg.
ATLANTA, GA.—1428 West Peachtree Street,
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CHICAGO, ILL.—7 South Dearborn St.
DENVER, COLO.—1375 Kearney St.

DES MOINES, IOWA.—6th Floor, Hubbell Bldg.
HOUSTON, TEX.—6910 Fannin Street
INDIANAPOLIS, IND.—3839 Meadows Drive
KANSAS CITY, MO.—201 E. Armour Blvd.
MINNEAPOLIS, MINN.—215 South 11th St.
NEW YORK, N.Y.—80 Broadway
OMAHA, NEB.—3212 Dodge St.

RALEIGH, N. C.—401 Oberlin Road
SALT LAKE CITY, UTAH—68 South Main
ST. LOUIS, MO.—4251 Lindell Blvd.
TAMPA, FLA.—3737 Neptune St.
TULSA, OKLA.—1708 Ullico Square
WICHITA, KAN.—501 KFH Building

news



BPN editor Carl Abell succumbs to heart attack

Carl Abell, 64, for the past seven years editor of BUTANE-PROPANE News, passed away suddenly of coronary thrombosis on October 17. Funeral services were held October 20 in his home city of Glendale, Calif.

Known and beloved by the entire L. P. gas industry, Mr. Abell had traveled extensively throughout the nation during his years as BPN editor, visiting LPG dealers and attending conventions. He commented often on how much he loved the LPG industry and the people who make it up.

In addition to editing BUTANE-PROPANE News, Mr. Abell was widely known as the author of the "Butane-Propane Power Manual" and the home study safety booklet "Safety is Everybody's Business." He was the first "Man of the Year" of the Western Liquid Gas Association and received numerous awards from other LPG associations and insurance companies.

Mr. Abell contributed many articles on LPG to other trade journals and was in constant demand as a speaker, especially



CARL ABELL

by state and regional LPG associations. He was considered one of the leading figures in the industry and an authority on LPG carburetion.

Prior to joining BPN, Mr. Abell was with Ethyl Corp. for 20 years; and also served with Hall-Scott Motor Car Co., American Car & Foundry, and Fageol Motors Co.

A native Californian, Mr. Abell was born in Escondido and attended the University of California. He leaves his widow, Alice, and three married sons.

LPGA's first service training book is ready

The first book in Liquefied Petroleum Gas Association's four-volume service training course is now being distributed. The course is unique in L. P. gas industry training facilities, in that the same basic material may be used by students studying alone, by industry or association-sponsored classes or by vocational education schools.

The initial book, like the three to follow, was prepared by the University of Texas under a grant-in-aid provided by LPGA.

The project was directed for LPGA by W. A. Schuette, Hausgas Inc., Washington, Mo. Jim Cockrum of the University industrial education faculty prepared the texts.

Book 1 covers L. P. gas properties, standards, distribution and customer relations. Later books will cover installation, service and operation of major appliances and equipment; transportation and bulk plant operation, and commercial, industrial, agricultural and carburetion applications. Books 2, 3 and 4 are expected from the press during 1959.

All books are amply illustrated and offer their topics in a style proved to be interesting to servicemen. LPGA field tested Book 1 among marketers' service and operating people with both basic and advanced knowledge of L. P. gas. Their comments guided the University faculty in final editing.

Book 1 comes in four parts: an information manual used as a student text, an instructor's guide, a student assignment guide and a test book. The forthcoming three volumes will also be in four parts.

All work was reviewed by Mr. Schuette's committee consisting of C. E. Blome, William Wallace Co., Dallas, Texas; Ralph H. Engstrom, Bastian-Blessing Co., Chicago, Roy Johnson, Fuelane Corp., Liberty, N. Y., and R. W. Manning, Rapid Thermogas Co., Des Moines, Iowa.

Under the home-study plan, a student receives the information text for study, the assignment book and a test book which would be retained by his instructor until tests are given. This set sells for \$4.25.

Class-study students receive the information manual and a test book, the latter being retained by the instructor. This set is priced at \$2.25.

Instructors buy the instructor's guide at a price of \$3.75.

The course is being distributed by the Industrial Education Department, division of Extension, University of Texas, Austin 1, Texas. Full details are available from that address.

William W. Clark named third editor of B-P News

William W. Clark, a 10-year veteran of the editorial staffs of BUTANE-PROPANE News and her sister publication GAS Magazine, has been named editor of BPN to succeed Carl Abell, recently taken by death. Mr. Clark becomes only the third BPN editor in almost 20 years of publication.

For almost eight years, the new BPN editor was editor of GAS Magazine which serves utility gas companies in the same way BPN serves L. P. gas firms. Late in 1953 Mr. Clark became editorial director of both GAS and BPN, actually serving as Carl Abell's boss. During this period, Mr. Clark became intimately acquainted with the LPG industry. He left the publication for two years to assume public relations duties, but re-

"Mississippi Tank T-1 Transport pays for itself in two years!"

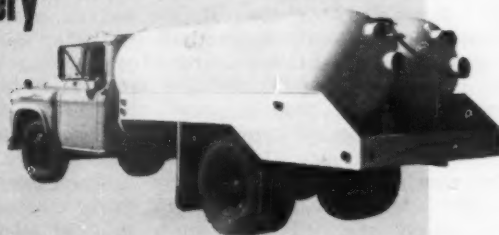
... reports Mr. Maldo Johnson, President
Johnson Butane Service, Albertville, Ala.



"The savings in transportation costs and labor brought about by the extra payload capacity of our Mississippi Tank T-1 Transport have already paid for the unit," says Mr. Johnson. "In addition to having a high cubic capacity, the equipment is so precisely balanced that maximum loading is possible. As a matter of fact, the unit has exceeded our expectations in every way." After a few months' experience with his first Mississippi Tank T-1 Load-King Transport, Mr. Johnson added another to his fleet.

"Paymaster" Twin-Delivery

Streamlined and beautiful, this unit is quality-engineered for perfect balance, maximum payloads and long, efficient service. Available with rear cabinets and full skirting in capacities from 1200 to 2300 wgs.



**MISSISSIPPI
TANK COMPANY**

INCORPORATED

Hattiesburg, Miss. Tel JUniper 3-0262

MISSISSIPPI TANK COMPANY, Hattiesburg, Miss.

—Please give me without obligation, an estimate of the number of months it will take for Mississippi Tank T-1 Transports to pay for themselves in my fleet. I operate _____ transports, average capacity _____ w.g. Each transport makes _____ trips per year.

Send complete information on:

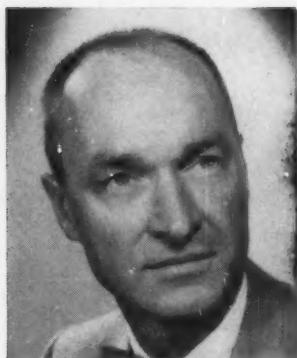
_____ Paymaster Twin Delivery
_____ Titan T-1 Delivery (3,075 wg capacity)

NAME

COMPANY

ADDRESS

CITY & STATE



WILLIAM W. CLARK

joined the staff as BPN's eastern editor one year ago.

Mr. Clark is a graduate of the University of Southern California's journalism school, is married, and has two daughters.

Calor of Northwest purchased by Petrolane

Petrolane Gas Service Inc. has purchased for cash the common capital stock of Calor Gas Service of Northwest, according to R. J. Munzer, president of the company. The transaction was in effect October 1.

This is the second major purchase for Petrolane within 60 days. The previous acquisition, effective August 1, covered 23 distributing plants and 11,000 customers in California, Idaho, Montana, Nevada and Utah.

Mr. Munzer stated that this present acquisition will currently increase the company's annual sales volume by \$1.3 million adding approximately 5 million gal. or nearly 7 per cent to Petrolane's present L. P. gas sales.

Commenting on the new properties, which will increase the present company operated plants to 113, serving over 65 thousand customers in ten western states and 25 outlets in Alaska, Mr. Munzer said that the favorable terms of this purchase and the further development of existing potential in the Pacific Northwest and Alaska will materially add to the company's future earnings.

Suburban's first quarter sales increase 23%

Sales of Suburban Gas Service Inc. for the first quarter of its current fiscal year increased 23 per cent compared with the same peri-

od a year ago, W. R. Sidenfaden, president, announced.

Sales for the three months ended July 31, 1958, amounted to a record \$1,790,089 and net profit totalled \$43,282. For the comparable period a year ago, sales of \$1,451,244 were registered resulting in a net profit of \$63,091.

For the 12 months ended July 31, 1958, sales amounted to \$8,694,910 and net profit totalled \$848,057.

The acquisition of Redi-Gas Co., a major L. P. gas distributing company in Pacific Northwest, effective Oct. 1, 1958, and three other L. P. gas distributing companies serving areas in Arizona, Colorado and California raises the total number of Suburban Gas Service customers to approximately 57,000 served through 102 marketing plants operating in 8 states.

Anchor to market propane from Canadian plant

Plans for starting production at the new Steelman Gas Ltd. plant near Estevan, Saskatchewan, neared completion this week with Anchor Petroleum Co.'s selection of the man to head its Calgary office, which will market the Steelman propane.

Eugene M. Stinson, who formerly was division sales manager in Anchor's Sioux City, Iowa, offices for four and a half years, has been appointed manager of Anchor's marketing activities in Canada.

Anchor has signed a long-term contract to market the propane production from the new Steelman plant, located in southeastern Saskatchewan. Although Anchor has been actively engaged in L. P. gas and petroleum marketing in Canada for the past 14 years, Mr. Baden said the Anchor-Steelman contract

will open up a virtually new market for propane consumption, since the new plant is located about 600 miles east of other large propane producing facilities.

The new plant will have both tank car and tank truck loading facilities, as well as extensive underground storage capacity.

The area of Melville, Saskatchewan, approximately 115 miles north of the plant, has been selected for underground storage development for approximately 5 million gal. of propane, and within two years the capacity is to be increased to at least 15 million gal.

Phillips & Buttorff wins U. S. Air Force contract

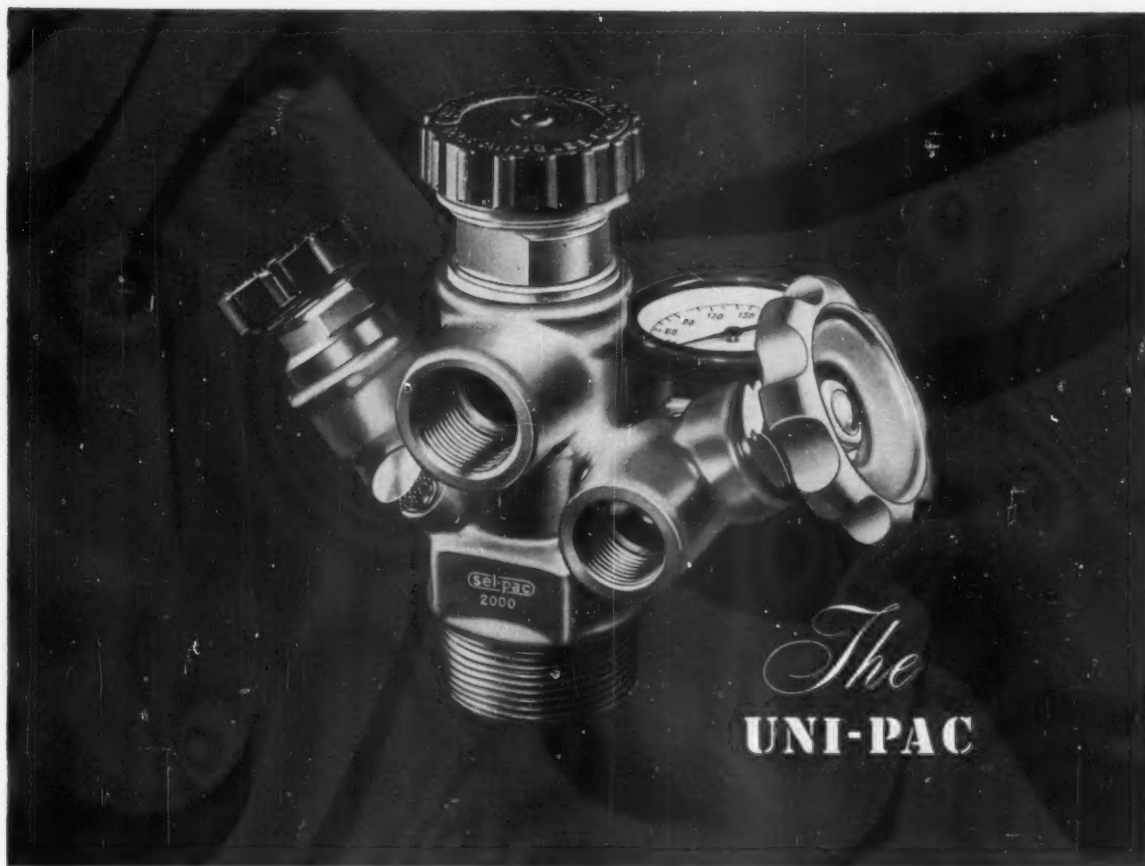
Phillips & Buttorff Corp. has won the contract to supply 1200 Enterprise ranges for the new U. S. Air Force Academy at Colorado Springs. The ranges will be installed in the kitchens of the officer housing.

The model, to be supplied, is a 30 in. range with 24 in. oven, Perfectrol thermal eye cook top unit, clock controlled oven with illuminated picture window.

The ranges are to be shipped from the Nashville plant at the rate of a carload every month until the contract is completed. In this way, the ranges will arrive at the Academy as housing is finished and ready for occupancy by the permanent officer staff.

Giant transport tanks for L. P. gas are popular in Europe, too . . . as this picture, taken in Denmark, shows. The transport is one belonging to the Kosangas Co., with headquarters in Copenhagen. Kosangas also has associate companies in Ceylon, Cyprus, Eire, Finland, Germany, and Greece. The tank pictured is an LMC unit manufactured by the Lubbock Machine & Supply Co. Inc., Lubbock, Texas.





The
UNI-PAC

an achievement in multi-purpose valves

Here in the Unipac are all the Deluxe features which can possibly be combined into one single head. In the Sel-Pac Unipac you enjoy built-in back check and excess flow check protection — not a required accessory to the product. One glance at the Unipac and you instantly detect the finest quality brass forging plus precision machining. But there is a great deal more than meets the eye. The Unipac has a filling capacity in excess of 42 gpm at 10 lbs. differential. Liquid withdrawal rate is in excess of 29 gpm. A $\frac{3}{8}$ " liquid withdrawal and $\frac{1}{8}$ " tapping for pressure gauge are available.

Compare the low contour of the Unipac — projecting only 5" above the tank boss — makes for added safety. Also included are the vapor return valve, service valve and fixed liquid level gauge.

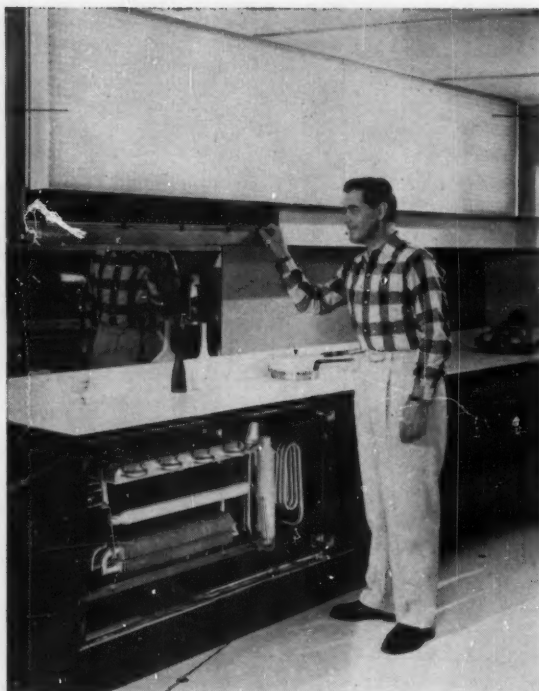
Request Unipac on the next LP-Gas tanks you order. Truly the last word in design! Get the complete story on the Unipac from our main factory or from one of the many Sel-Pac representatives strategically located throughout the country.



sel-pac
The Mark of Leadership



SELWYN PACIFIC COMPANY P. O. Box 61031 • 14502 South Figueroa, Los Angeles 61, California



The source of heating, air conditioning, refrigeration and energy output in the Whirlpool kitchen is the Miracle Gas Center in the kitchen base cabinet. Gas-fueled, the Center provides cooling for all the refrigerators and freezers in the kitchen; heats, cools and purifies the air in the entire house.



She's cooking on a gas burner—but there are no grids and you can't see the flame. The secret is the power burner, a device which mixes air and gas before combustion. As a result, no secondary air is needed, combustion is virtually complete, and the entire unit can be concealed under an easy-to-clean flush surface.

Whirlpool gas kitchen has central fuel source

RCA Whirlpool's Miracle Gas Kitchen incorporates a power burner, which has been applied in the kitchen to a gas water heater, ovens, and operating gas surface units and a rotisserie. In simplest terms, the power burner mixes air and gas in the right proportions so that no secondary air is required in combustion. Combustion can take place in a covered space and efficiencies hitherto impossible are realized.

In the gridless flush surface unit built into a kitchen countertop, all flames are hidden under a thin plate of Pyroceram, a ceramic glass which can withstand tremendous heat. Some foods can be cooked right on the glass cover plate without the use of conventional pots or pans. When the food is done the smooth, flat surface can be wiped clean easily with a damp cloth. There are no grids or gas ports to soak and scrub.

Heart of the kitchen is the Miracle Gas Center, a combination heating, cooling and energy-supply unit tucked behind the doors of a base cabinet. This one device heats

and cools the entire house, purifies the air and provides refrigeration for the kitchen's several food preservation centers.

Under a modern sink with a retractable faucet and pushbutton controls for water temperature is a brand new concept in water heaters, a gas unit which utilizes the power burner principle to provide an almost instantaneous and continuous supply of hot water.

A touch of a button brings into view the gas Rotofreeze, a gas operated food freezer which swings out from under the usually dead corner where base cabinets meet. Almost directly above it is a gas refrigerator which descends from the wall, placing foods at the homemaker's fingertips.

Next to the refrigerator is an infra-red gas oven which also descends to a convenient height. Under the base cabinet below it is the Magic Food Maker. Touching a selector button on a control panel moves any of several frozen foods from a special gas food freezer into an oven where they are automatically cooked and then delivered above the countertop to the waiting hands of the homemaker. All of the refrigerated units in the

kitchen are frost free because there are no coils on which frost can form.

Housed in an island in the center of the kitchen is the vertical rotisserie. It pivots on its own base to face either into the kitchen or out on the patio. On the same base is one of several gas convenience outlets into which the gas Portaburner can be plugged. This surface unit can be moved from place to place and multiplies the cooking areas of the kitchen. Portable gas-fired coffeemakers, casserole dishes and frypans are also equipped to plug into any of the outlets.

Built into one end of the island are the kitchen's four flush surface units. Adjacent to them is the normal resting place of the self-propelled travelling dishwasher. In addition to storing, washing and drying dishes, the unit also houses a gas toaster, tilt-out cold beverage storage compartment, and receptacles for keeping foods hot.

Beyond the center island is the laundry center and beverage bar which also pivots to face either the kitchen or the patio. On one side is the 1959 model of the Whirlpool
(Continued on page 69)

IT HAPPENED AT ...

Sundown, Texas



R. J. ALLISON COMPANY

TULSA, OKLAHOMA

July 1, 1958

Mr. Charles M. Corken
Corken's Incorporated
P.O. Box 1062
Oklahoma City 1, Oklahoma.

Dear Mr. Corken:

We have just completed a large miscible phase injection job near Sundown, Texas. Our reason for writing is to tell you of our complete satisfaction with the performance of our two Corken dry cylinder vapor pumps and the two Corken Coro-Vane rotary pumps.

✓ Over 7 1/2 million gallons of propane were handled by the vapor pumps. The vapor pumps were used to transfer the propane from the transport trucks to surge tanks and the Coro-Vane pumps were used to boost the propane from the surge tanks to the high-pressure pumps. On this job the Coro-Vane pumps operated against 50 to 75 p.s.i. differential pressure continuously. Other rotary pumps were also used on this job. However, the Coro-Vane pumps handled over 5 million gallons of propane. ✓

✓ During the entire operation it was only necessary to repair one gasket on one vapor pump. We consider these vapor pumps to still be in first-class condition and will, without inspection or repair, place them on bulk plant service.

✓ The Coro-Vane pumps have given absolutely no trouble and seem to be working as well as the day they were installed. We are, however, returning these pumps to your factory for examination. The reason for wanting these pumps examined is that this is the first time we have had any rotary pump finish a job of this type and size without a major overhaul and we just don't feel right about pushing them any further without some attention.

Yours very truly

R. J. ALLISON COMPANY, INC.

J. H. Smith
J. H. Smith

CORKEN'S INC.

CONTACT YOUR CORKEN DISTRIBUTOR

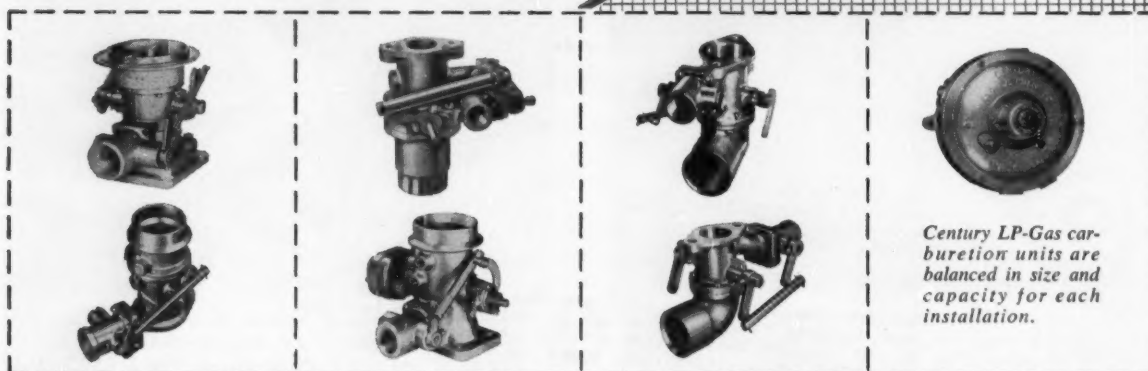


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the big year!

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in performance...in dealer service**



...for Century dealers

CENTURY MEANS BUSINESS THIS YEAR—big volume business for Century carburetor dealers. LP-Gas motor fuel sales are booming—and Century as a part of the Borg-Warner team offers dealers amazing sales potentials and opportunities.

It's time to get prepared for profitable summer sales of carburetion and LP-Gas as a motor fuel.

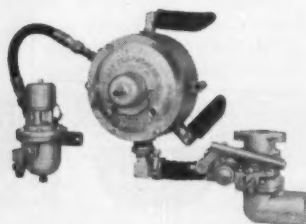
Century is ready with the World's most complete line of LP-Gas carburetion. Century is ready to offer you many new advantages, new services, new developments and new profits.

Century is ready with its big, nation-wide sales and service organization to help you. Our central location and western service-center-warehouse assures fast delivery and customer satisfaction.

Now you can get ready for the big year—1958—by writing for all the facts about Century's new dealer service plan.



Demand the dependability of a Century carburetion system for all your conversions and assure customer satisfaction.



CENTURY

LP-GAS CARBURETION



Century Gas Equipment
Marvel-Schebler Products Division, Borg-Warner Corp.
625 Southside Drive, Decatur, Illinois

Export Sales: Sin Par Automotive Div., Singer Products Co., 15 Moore St., New York 4, N.Y.



Butane, Propane

POWER

CARBURETION • INSTALLATION
• SERVICING

POWER SECTION

Tune-up hints for LPG engines

By **GEORGE M. GALSTER**, Service Manager
Champion Spark Plug Co.

SPARK PLUGS, we're happy to report, usually present very few problems in engines built for or converted to LPG fuel. If the conversion is made in accordance with the manufacturer's recommendations and the general condition of the engine is satisfactory, an LPG user should encounter no particular trouble from the service standpoint.

There are, however, several points to watch for when converting your gasoline engine to L. P. gas. They are as follows:

Compression Ratio

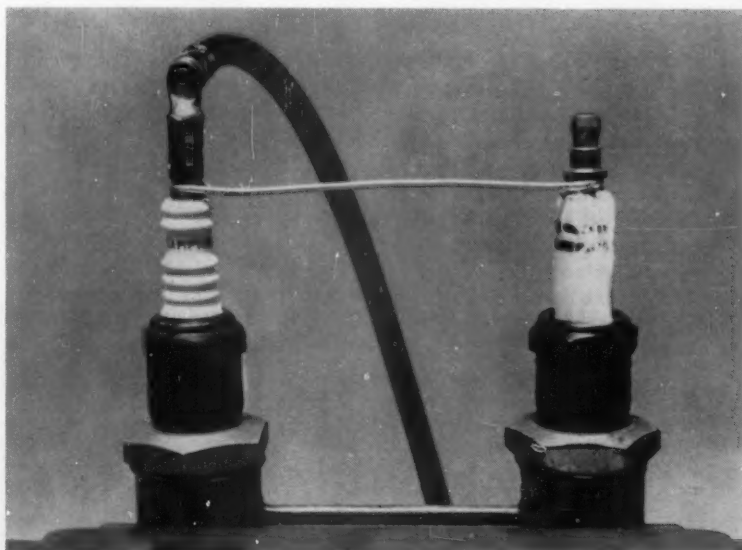
Because L. P. gas has good anti-knock qualities, engine compression can be increased by approximately one ratio. This is generally done with special cylinder heads, planing existing cylinder heads, or installing high dome pistons. It is usually advisable to limit the increase of compression to about one ratio because higher increases might place undue stress on engine parts not designed for unusually high pressures.

Cooling System

It is sometimes necessary to install new thermostats and permanent anti-freeze for winter opera-

tion in order to maintain cylinder head temperatures at between 160 and 180 deg. F. Also, for engines under heavy duty operation, additional radiator capacity may have to be provided. In extremely cold weather operation, it is sometimes advisable to use an immersion type

As a result of inquiries from the field, an ignition specialist offers advice to operators of LPG engines.



"Flashover" demonstration. Note how high tension current "shorts" over insulator on spark plug at right.

or electric cylinder block warmer in order to provide quicker starting.

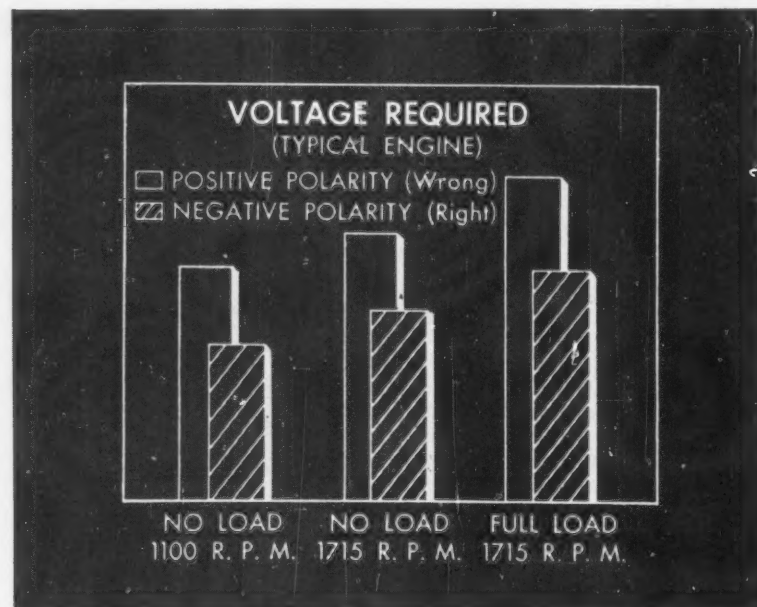
Manifolds

Since LPG is a gas under normal pressure and temperature, no heat is required on the intake manifold. In fact, higher density of charge can be maintained and better power and economy produced, if the exhaust and intake manifolds can be separated or the "hot spots" blocked off with a steel plate.

don't use a gasoline or natural gas exhaust analyzer. The power mixture should never be set leaner than 14.2:1, using the LPG analyzer scale.

Spark Plug Heat Range

Since L. P. gas is cleaner-burning than gasoline, and has less tendency to foul plugs, colder plugs can be used to increase electrode life. Usually the heat range should be one or two steps colder than the recommended range with gasoline.



Reversed polarity has a noticeable effect on voltage requirements—and on performance.

Valve Guides

To avoid excessive valve temperatures and possible valve sticking, it is often necessary to shorten the valve guides which extend into the exhaust passages. This is particularly true on older engines. It is also advisable to check with the engine manufacturer for different valve-guide stem clearances and tappet adjustments which they may recommend.

Carburetion

LPG has a narrower flammability range than gasoline, so it is advisable to use an exhaust analyzer to set optimum idle and high speed fuel/air ratios. This will also help to improve cold starting characteristics. Be sure that the analyzer is calibrated for LPG...

For example an International gasoline engine using Champion J-8 would probably use the colder J-6 when burning LPG.

If plugs tend to foul, look for oil control troubles. It could be either worn piston rings or leaking valve guides, or both.

It's a good idea to examine the firing tips of the plugs whenever they are removed for servicing or replacement. Too cold a heat range or poor oil control will generally be indicated by a sooty or oily deposit on the firing tip.

Because of higher compression pressures, plug gaps should usually be set closer. This gives easier starting, smoother full power operation, and higher mileage before regapping becomes necessary. A good rule when converting to

higher compression ratios is to reduce gap spacing .001 inches for each 10 psi increase in cranking pressure.

Ignition System

There are *potential* ignition problems with LPG engine, of course. To obtain good results with an LPG conversion, you need fairly high compression ratios. Since higher sparking voltages are required, thus, it is necessary to make more careful, if not more frequent, checks of the coil, condenser, distributor cap, points and ignition wiring.

Cross-fire is one phenomenon which tends to be more prevalent with LPG engines due to the higher voltage levels. This occurs because a strong magnetic field is built up around any high tension conductor such as an ignition cable. This field can in turn induce voltage into an adjacent cable if the second cable runs closely in parallel. Mere induction of voltage in a spark plug lead which is not being fired at that instant doesn't usually cause trouble in itself, but you can expect trouble if the following conditions occur:

1. If the induced voltage is high enough to spark the gap of the plug attached to the cable, and
2. If ignition of the mixture takes place during some part of the ignition cycle which will cause abnormally high pressures and/or temperatures.

This problem can develop in LPG-powered V-8 engines where four of the leads may be bunched coming out of the distributor. If two adjacent cylinders on the same bank fire 90 deg. apart, the induction may fire one of the cylinders 90 deg. ahead of normal firing. These adjacent cylinders firing consecutively are the usual trouble spots. Thus, in a firing order 1, 8, 4, 3, 6, 5, 7, 2 with even numbers on one bank and odd numbers on the other bank, cross-fire ignition may occur 90 deg. before normal in 4 and 8 fires and in 7 when 5 fires.

This problem can be minimized by separating the spark plug cables on consecutively firing cylinders with as much space as possible. If the leads must cross, make it a

right angle cross and always be sure that the leads have good insulation.

Flashover

"Flashover" (shorting over the outside of the insulator) is another possible problem with high voltages. Even rubber boots over the insulators don't always completely eliminate the problem. That is probably one reason why many L. P. gas conversion kits include spark plugs with the 5-rib insulator. This multiple rib construction gives a longer path between terminal and shell. This requires higher voltage before flashover can occur.

Polarity

Another factor which can affect the sparking efficiency across the electrode gap is the coil polarity. Negative polarity to the plug can reduce the voltage required to fire across the spark plug gap by as much as 35 per cent. Very often this can improve starting, eliminate rough idle and misfiring during acceleration. This is affected by the way the primary wires are connected to the coil. If the two wires are reversed (and it can't always be checked by looking at the coil markings) wrong polarity is supplied to the plug terminal.

Finding out if the coil is connected in correct polarity can be done by several methods. Coil test-

ers which provide a means for checking polarity or a high tension voltmeter can be used. With a voltmeter, first ground the positive lead and then, with the engine running, momentarily touch the spark plug terminal with the negative lead. An up-scale reading will indicate the correct negative current flowing to the spark plug; if the needle moves down-scale, reverse the coil leads.

Another simple method of checking polarity can be accomplished by using a pencil. (Be sure it's wood!) With the engine running, insert the pencil point in an air gap between an ignition cable and a spark plug. If the spark flares or feathers and has a slight orange tinge on the spark plug side of the pencil, correct polarity is present; if the spark flares to the opposite, reverse the coil connections.

Polarity can be inadvertently reversed by improperly installing a battery, but it is usually due to reversed primary leads at the coil.

When coils have terminals marked plus and minus, the negative terminal should be connected to the distributor in a *negative ground* system. When the positive battery post is grounded, the positive terminal of the coil should be connected to the distributor. Don't always depend on coil markings. However, in case of stubborn igni-

tion difficulty, always check to see that *negative* current is being supplied at the spark plug terminals.

Ignition Timing

Due to the high anti-knock value of LPG, basic ignition timing should usually be advanced 3 to 6 deg. from the original settings specified for gasoline. However, the automatic distributor advance should be modified as shown in the accompanying illustration to provide 10 to 20 per cent less spark advance at maximum speed. This modified advance "rule of thumb" has been found to apply well to almost any engine *converted* to LPG. For completely accurate modification, a new maximum-power ignition advance curve would have to be established using either an engine or chassis dynamometer. Naturally, engines as originally supplied by the manufacturer generally do not need further modification to their distributor.

Summing it up, bear in mind that the ignition system can be critical with high compression LPG engines. However, with the ignition system in good condition, spark plug problems are usually at a minimum. Keep the above factors in mind and be sure you're using the correct heat range. That should assure you of maximum trouble-free spark plug life. ■

A properly-tuned LPG-powered tractor hums along over a California field.



SELL THE FUEL NOT THE PRICE

A common error in selling L. P. gas as a motor fuel is to refer to it as a low priced or cheap fuel. The fact that in most areas the price per gallon is substantially less than gasoline should only be treated as an added benefit.

Butane and propane, generally referred to as L. P. gas, is a top quality fuel with many superior qualities to gasoline. It is not necessary to qualify its use by stressing the price.

A fuel with a natural high octane rating in excess of 100 without any additives to foul spark plugs and valves and which will develop smooth, efficient power need not be justified by a low price.

A fuel which burns clean without leaving carbon and varnish deposits in the engine and thereby reducing engine maintenance, does not demand qualification by price.

A fuel that does not wash

down cylinder walls, nor dilute the lubricating oil and thus increases engine life as much as 300 per cent and greatly extends oil life, does not require the excuse of price to merit its use.

A fuel that can be burned inside manufacturing plants and on city streets without its exhaust fumes being nauseating to all who are exposed to it can pay its own way.

A fuel which requires only the simplest type of carburetion system, has an enviable safety record and whose storage facilities discourage pilferage, is standing on solid footing.

L. P. gas, the "Ideal Motor Fuel," should be sold on its benefits to the consumer. The price then becomes secondary as it well should. If the price per gallon is less than gasoline, so much the better, it then becomes a real bargain. Do not sell this fuel short, just sell it.

Courtesy of Algas Mixer

Use of LPG in Italian cars spreads every day

By GIOVANNI COPPA-ZUCCARI

Some business circles in Italy are beginning to get worried about the spread of L. P. gas powered automobiles.

At the beginning of 1958, there were 34,000 cars and 6000 trucks running on LPG in Italy. At present, however, the number of vehicles adapted for this type of fuel is increasing at the rate of about 2000 a month. This pace is expected to increase rapidly when the number of LPG filling stations grows.

In 1957, out of a total of 440,000

tons of LPG consumed, 34,000 tons or only about 7.7 per cent were utilized for automobiles. Taken by itself, this is not a large figure, but it is sufficient to encourage the installation of special pumps at existing filling stations or even building special LPG stations.

The circumstances which attract people to LPG is the lower cost. In fact, a car owner in Italy pays 196 lire for a kilogramme of gasoline while an equivalent quantity (0.845 kg.) of LPG costs only 110 lire.

Some trade associations concerned with the distribution of gasoline are worried about the spread of LPG and they have been

asking the Italian Government to forbid the use of LPG in automobiles.


It is not clear whether the Government will honor their request but it seems certain that it will stick additional taxes on LPG powered automobiles. It will be, however, equivalent to prohibition for no one will spend money for a conversion unless there is an economic advantage in doing so.

Beam Products lists leads for L. P. gas conversions

The L. P. gas conversion market continues to grow. Beam Products Manufacturing Co. asks if you are getting your share of this profitable business.

Beam has compiled this list of leads on gasoline engines which can be converted to LPG:

Air compressors	Orchard fans
Augers	Orchard sprayers
Automobiles	
Buses	Portable saws
Centrifugal pumps	Power cranes
Construction equipment	Power generators
Conveyors	Power shovels
Concrete mixers	Power sweepers
Cultivators	Pick-up trucks
Delivery trucks	Pump jacks
Disc grinders	
Electric plants	Rail drills
Farm tractors	Refrigeration units
Floor sweepers	Riding lawn mowers
Fork lifts	Riding tractors
Grain blowers	Road trucks
Grain elevators	Rotary tillers
Harvesters	Sand spreaders
Highway line markers	Saw mills
Hoists	Scoops
Irrigation pumps	Scooters
Lawn mowers	Snow blowers
Lawn rollers	Sprayers
Light plants	Spike pullers
Logging equipment	Sprinkler systems
Milkers	Stationary engines
Mill trucks	Straddle trucks
Motor bikes	Taxis
Oil field equipment	Tie tampers
	Towing tractors
	Transit mixers
	Turf aerators
	Vibrators
	Weed cutters
	Well drilling equipment
	Welding machines





Safety Hose Nozzles

Parkhill Nozzles
lock on and open fuel valves in 3 seconds . . .
On release, automatically vent away from hands.

Two sizes: Domestic 7",
Truck 11" overall.

1. Long Life
2. Steel-Ductile Iron
3. Easy to Repair
4. Safe

Write for Information

PARKHILL-WADE

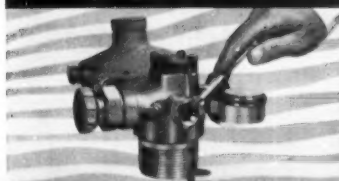
2264 Huntington Drive, San Marino, Calif.*

ON EACH BULK TRUCK...

Save up to \$2,215.00 a year with Beaird Jet Filled LP-Gas Systems



HOSE SAVING HORIZONTAL FILLING CONNECTION—Prevents accumulation of snow, water or trash in valve opening. Reduces operator fatigue—speeds filling.



SAFE LIQUID WITHDRAWAL OPENING—with new Rego Chek-Lok excess flow valve—for economical truck and tractor fueling. Built-in excess flow valve held shut until released by insertion of shut-off valve.



FAST JET FILLING—Saves gas, requires no vapor return hose. Fills at full bulk truck pump capacity.

National figures prove that it costs nine cents a minute to keep one bulk truck on the road. Filling a standard dip tube type 250-gallon LP-Gas system requires nine minutes and costs the dealer 81 cents. Yet it can be done in only two and eight-tenths minutes, for a savings of 54 cents, when the dealer takes full advantage of the faster filling rates possible with Beaird Jet Filled LP-Gas Systems.

Designed to fill at maximum pump rate (up to 70 gallons per minute) without a vapor return line, Beaird Jet Filled LP-Gas systems turn pump rated capacity into full usable capacity. With this combination, a high capacity pump and Beaird systems, savings up to \$2,215.00 a year in filling time are possible with each bulk truck you operate.

Money saving filling rates are only one of the many advantages dealers have when they standardize on Beaird LP-Gas systems... *here are other plus features:* Highest Quality Construction • UL Approval • Moisture-free-complete dehydration • Dealer Merchandising Aids • Stocking Point Program • Long Term Financing for Lease Plans • Complete Range of Sizes.

Send for Bulletin #2669 today... *the filling rate charts show how much you can save with your bulk truck plus Beaird Jet Filled Systems.*

THE J. B. BEAIRD COMPANY, INC.

A Subsidiary of American Machine & Foundry Company

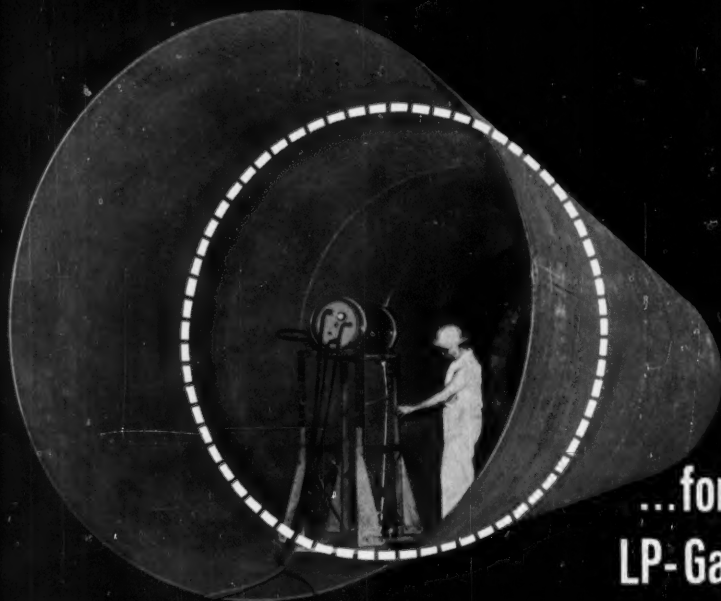
Shreveport, Louisiana • Clinton, Iowa • Stockton, California



LP-GAS & NH₃ EQUIPMENT

360 DEGREE

RESOTRON



...for Safer
LP-Gas Storage

ANOTHER BEAIRD

Controlled Quality

All X-Ray film and every inspection report made on a Beaird pressure storage vessel is retained in a file at Beaird for five years.



This amazing new GE Resotron X-Ray machine, now installed at Beaird, sees through an entire 360° circumferential seam at a single exposure. Twenty-nine times faster than ordinary X-Ray equipment, it is also many times more powerful.

The importance of the Resotron can best be judged when it is realized that over 323 feet of X-Ray film are exposed and minutely examined on a single 30,000-gallon Beaird pressure storage vessel.

Full 360° X-Ray is just one of the many advanced inspection and fabrication procedures in Beaird's system of "Controlled Quality" construction. It starts in the engineering department where modern design combines with 40 years manufacturing experience in developing safe, dependable pressure storage. In purchasing too, strict adherence to specifications is followed in obtaining all materials.

As the vessel is built, every task from forming to shaping and joining is carefully supervised. Constant checking by skilled Beaird inspectors and a resident insurance inspector assures highest quality construction.

All Beaird pressure storage vessels are stress relieved, thoroughly tested and certified before leaving the Beaird yards.

Why accept less safety? Check with Beaird on "Controlled Quality" pressure storage vessels for your next installation.



Beaird dealer storage is available from 2,000 w. g. to 30,000 w. g. capacity. Other sizes to 200,000 w. g. available to your specifications.

All Beaird pressure storage vessels are stress relieved for safe storage of Butane, Propane and Anhydrous Ammonia as well as all other pressure stored products.



THE J. B. BEAIRD COMPANY, INC.

A Subsidiary of American Machine & Foundry Company

Shreveport, Louisiana

Clinton, Iowa

Stockton, California

(Continued from page 60)



An almost instantaneous and continuous supply of hot water is supplied by this unit in the Miracle Kitchen. Visible through the plastic cover used here to show construction are the coils through which the water flows. Under them rises the powerful gas flame.

gas combination washer-dryer, a currently available appliance. When a button is pushed the unit revolves to bring into view the beverage bar which dispenses a variety of soft drinks and ice. Below the counter top is an automatic gas ice cube maker.

Other features are an elevator wall cabinet for the storage of dry foods and a food mixing center which dispenses correct amounts of baking ingredients and incorporates a self-storing mixer.

Weber receives industry's Distinguished Service

Victor Weber, vice president of Robertshaw-Fulton Controls Co., Irwin, Pa., received the American Gas Association's Distinguished Service Award during the 40th annual AGA convention.

The Association's top award, established in 1929, is presented annually to the individual who has recently made the most outstanding contribution to the general interest of the gas industry. Mr. Weber received the award from Robert W. Otto, AGA president and chairman of the board of Laclede Gas Co., St. Louis.

The award was conferred upon the Robertshaw executive for his

conception of the "thermal eye," the first produced "burner with a brain" sold to the public. In his citation, President Otto said, "This has proved to be the most outstanding and acceptable improvement offered on gas ranges in recent years."

Mr. Weber, a resident of Greensburg, Pa., joined Robertshaw 20 years ago. He was named assistant vice president in 1947 and vice president in 1953.

Temco will produce Magic Chef space heaters

Temco Inc., Nashville, Tenn., has acquired the inventory, tools and dies for production of gas and oil space heaters formerly manufactured by the Magic Chef division of Food Giant Markets Inc., under the trade mark "Magic Chef."

According to F. Donald Hart, president of Temco, his company will continue to manufacture gas and oil room heaters this year under the trade mark "Magic Chef," and, subsequently, the line will be produced under the trade mark "Magic Chef—Wonder Warm," which it acquired as a part of the transaction.

Mr. Hart further stated that Temco also acquired in the transaction, the entire service parts stock inventory and will continue to supply parts for Magic Chef heaters now in the field. A new department will be created to handle the "Magic Chef—Wonder Warm" line, which will also be marketed separately from the Temco line of gas heating equipment.

Arrangements have been made with Dixie Products Inc. for the Magic Chef salesmen to continue to serve the dealers for the balance of this year.

Mettler moves facilities to Rockford, Ill.

Manufacturing and administrative facilities of the Mettler Co. Inc., division of Eclipse Fuel Engineering Co., have been moved from Los Angeles to Rockford, Ill., according to A. Campbell Perks, Eclipse president. The move, which was effective October 1, was made to bring Mettler closer to its major markets. This move will also make available additional manufacturing space for expansion in products and markets.

Robert W. Pixler, vice president and general manager of Mettler, will continue to direct all activities for the division. Key executive, manufacturing, and engineering personnel will move to the new location assuring uninterrupted flow of products to customers.

The Mettler field organization has not been affected by the move.

Two new dealer promotion pieces are now available

A 1959 gas calendar, 7¼ x 9 in., with four color illustrations of gas appliances, and Julia Meade's picture on the front cover is now available.

It's an all gas promotion, featuring the newest ranges, wall ovens, refrigerators and laundry appliances. This calendar offers dealers a chance to tie-in with customers and prospects at a cost of about a dime each. There is an imprint space for the display of the distributor's name, address

This Master transport blimp of "T-1" steel was custom designed for Uregas Service Inc., Moberly, Mo., by Master Tank & Welding, Dallas. The 8600 gal. capacity transport is 38 ft 10 in. long, and has an outside diameter of 76½ in.





A display truck, the "Built-in-Mobile," is visiting Preway Inc.'s wholesale distributors throughout the country and will be used as a major display at national conventions. Represented in the 35 ft. 8 wide trailer is 51 ft of built-in kitchen appliances.

and phone number, which will stay in sight all through 1959 on the kitchen wall.

Another gas promotion piece is a shopping list—a useful pocket size booklet, 2½ x 4¼ in. of 48 blank pages, with a brief gas message at the bottom of every page.

For samples of each of the promotions and further information write Eldredge Litho. & Printing Co. Inc., 225 Varick St., New York 14, N. Y.

National Council reveals its 1959 key programs

A national sweepstakes promotion with an all L. P. gas house as first prize, continued use of network radio, increased production of dealer sales aids, and participation in a public service television series are key programs for 1959 authorized by the National LP-Gas Council's board of directors at its annual meeting in Colorado Springs, Colo., October 10.

The sweepstakes promotion is designed to draw prospective customers into the stores of dealer-members of the Council. An advertising campaign kicked off by a page and one-half *Reader's Digest* insertion will announce the program to millions of American families. Consumers may enter by filling out an entry blank obtainable through their local L. P. gas dealer who is a member of the Council. The winner will receive a house completely equipped with L. P. gas appliances. The modern home and appliances will be valued at \$25,000.

The contest is designed as a

"sure fire bet" to bring thousands of "hot prospects" into L. P. gas dealer stores.

A continuation of Council network radio newscasts is also planned for 1959.

The board also approved plans for continuing Council advertising in major national and regional farm magazines and state farm papers, consumer magazines including *Better Homes & Gardens* and *New Homes Guide*, and specialized publications to reach the builder, motel operator, and home economist fields.

The Council dealer sales aid program makes available at cost a variety of helpful literature for local dealer use. These include: hand-out pieces, envelope stuffers, display cards, and blowups, booklets, and reprints of articles placed by the public relations staff in consumer and trade magazines. The directors approved a plan whereby some of these offerings will be printed in a more expensive format than dealers can now afford and sold to dealer-members at considerably less than cost, the Council making up the difference.

The Council public relations program for 1959 will include participation in *Modern Home Digest*, a television woman's interest series which is filmed and distributed to 200 stations. The series is similar in format to the former network "Home Show." Adjacency time for this show will also be available to local dealer-members.

Pyrofax buys Canadian bottled gas business

Pyrofax Gas Ltd., of Canada, a subsidiary of Pyrofax Gas Corp., a unit of Union Carbide Corp., has announced that, as a result of a recent survey of the L. P. gas business in Ontario and Quebec, new "Pyrofax" gas distributors

have recently been appointed at Victoriaville and St. Jerome, P.Q., and Hawkesbury, Gananoque, Marmora, Barrie, Woodbridge and Rockwood, Ont. The company has also recently purchased the assets of the Wellington Propane division of Root Hardware & Construction Co. Ltd. of Rockwood, Ont., who were then appointed as franchised "Pyrofax" distributors.

"Pyrofax" gas service is offered only through franchised distributors to both domestic and commercial users. The company has announced its intention of extending this service as soon as suitable new distributors can be found and set up in other areas such as the counties of Huron, Perth, Brant, Welland, Wellington, Dufferin, Grey, Bruce, York, Ontario, Durham, Victoria, Northumberland, Peterborough, Hastings, Haliburton and Muskoka.

Under the franchise, distributors handle all transportation, warehousing and installation and the sale and servicing of all appliances. The cylinders, regulating equipment and storage tanks are supplied by Pyrofax Gas Ltd.

Clark Manufacturing Co. gets Beam sales rights

Clark Manufacturing Co., now located at 44079 N. Sierra Hwy., Lancaster, Calif., has been reorganized by Thomas R. Clark and Kenneth Kennepohl.

Clark produces L. P. gas tank pressure control valves, and at present preparations are underway to produce other items applicable to the L. P. gas field.

The company also acquired exclusive sales rights of Beam L. P. gas carburetion, in the seven western states (Arizona, California, Oregon, Washington, Idaho, Utah and Nevada).

Dallas Tank Co. merges with Trinity Steel Co.

A new company, Trinity Steel Co., Inc., emerged Nov. 1 from a consolidation of Dallas Tank Co. and Trinity Steel Co., both long established plate steel fabricating firms in Dallas, Texas.

The new company is headed by C. J. Bender, chairman of the board, and W. Ray Wallace, president. Under Wallace's direction, Ray L. Reedy will have charge of the LPG Division while E. O. Halton, Sr., will supervise the Custom Division.

Keep your Lift Truck customers happy— supply LP-Gas in cylinders **BUILT TO QUALITY STANDARDS**

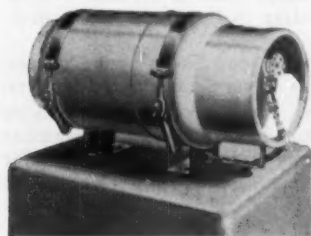


PREST-O-LITE Cylinders have earned a reputation for high quality the world over. And PREST-O-LITE Cylinders for lift trucks are built to the same high standards. Their design was developed with the cooperation of lift truck manufacturers and the LP-Gas industry. They are inspected and tested well beyond NBFU and ICC requirements.

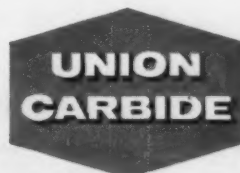
Yet, PREST-O-LITE Cylinders for lift trucks cost you no more than other makes.

Four standard sizes of PREST-O-LITE Cylinders for lift trucks are available from stock. Valves, gauges, and fittings are installed at the factory.

For details and prices of PREST-O-LITE Cylinders, call your nearest LINDE office. LINDE COMPANY, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. Offices in other principal cities. *In Canada:* Linde Company, Division of Union Carbide Canada Limited.



Linde



The terms "Linde," "Prest-O-Lite," and "Union Carbide" are registered trade-marks of Union Carbide Corporation.



W. R. Wallace
President



C. J. Bender
Chairman

The merger was brought about in part by the need of Dallas Tank for a larger site, which Trinity Steel, with a 15-acre property located convenient to rail and highway facilities, was able to provide.

For the present, both plants will be operated in order to produce backlogged orders on schedule. Eventually, after certain expansions are completed, the entire production will be moved to Trinity's present administrative offices at 4001 Irving Boulevard, Dallas.

Harvey urges gas men to sell air conditioning

Summer gas sales will soar when gas companies tackle gas air conditioning as they tackled gas house-heating in the 1920's, a leading air conditioning manufacturer declared at the AGA's 40th annual convention.

In an address on "Advancing Our Frontiers of Service Through Air Conditioning" prepared for

the final session of AGA's three-day meeting, Lyle C. Harvey, a senior vice president of Carrier Corp., Syracuse, N. Y., compared the present status of gas air conditioning to gas househeating's position 30 years ago.

"The gas industry would not be where it is today if many gas companies had not put forth the aggressive sales effort on the residential heating business which they started in the late 1920's," said Mr. Harvey. "This work was started even though the selling cost at that time was excessive.

"I don't see any reason why this same job cannot be repeated on air conditioning, and at a faster rate."

LPG group expected to be formed in Japan next year

A liquid petroleum gas group, with the Mitsubishi Shoji Co., as a leading member, is expected to be formed early next year, which would mark the entry of Japan into the marketing picture for this newest of international trade commodities, according to *The Journal of Commerce*.

Maritime transportation of LPG has not been completely solved, and remains one of the drawbacks to its growth in international trading.

The solving of this problem, it is believed, lies in the construction of special type tankers, and some progress toward this end is reported. In this respect, the Mitsubishi Heavy Industries, Reorganized, a charter member of the Mitsubishi Shoji group, has already begun working on designs for such a special type tanker.

Since LPG shipping does require special tankers, it is also felt that the success of the new venture lies in the development of a market of regular consumers using at least



Green's Fuel of Florida Corp.'s new bulk trucks are real rolling billboards for advertising and public relations. Advertising messages say "Our rolling gas main never ends" and "gas service" in addition to the company name. Public relations message on bumper shows the firm's concern over public safety with "please drive safely."

100,000 tons of the gas annually. So far, it is believed that the proposed LPG group under the Mitsubishi Shoji has made the best advance progress in developing such a market of all the groups submitting plans to the Ministry of International Trade & Industry.

Mitsubishi Shoji, in fact, has already contracted with the Tokyo Gas Co. for the latter's purchase of 20,000 tons during the group's first year of operating, with consumption rising to 70,000 tons in the third year. In addition, the Osaka and the Toho gas companies have indicated interest.

Norge will market many gas appliances in 1959

Norge division, Borg - Warner Corp., will market a gas refrigerator, two gas combination washer-dryers, a built-in gas range, and a gas range with a vertical broiler, according to Judson S. Sayre, president.

Norge now sells gas ranges, clothes dryers, and water heaters.

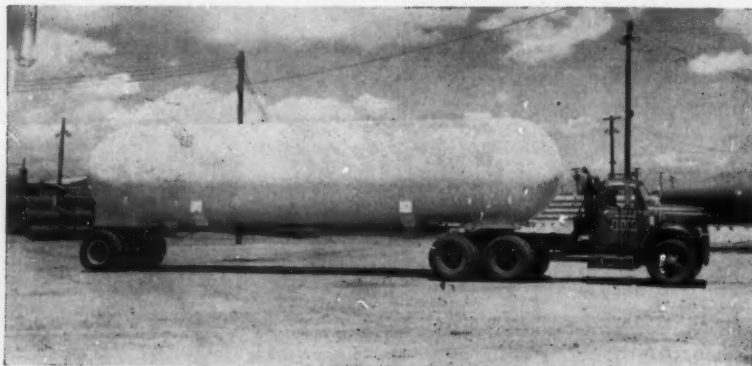
"We have taken the final step in our full-line gas appliances building program designed for long-term marketing," Mr. Sayre noted.

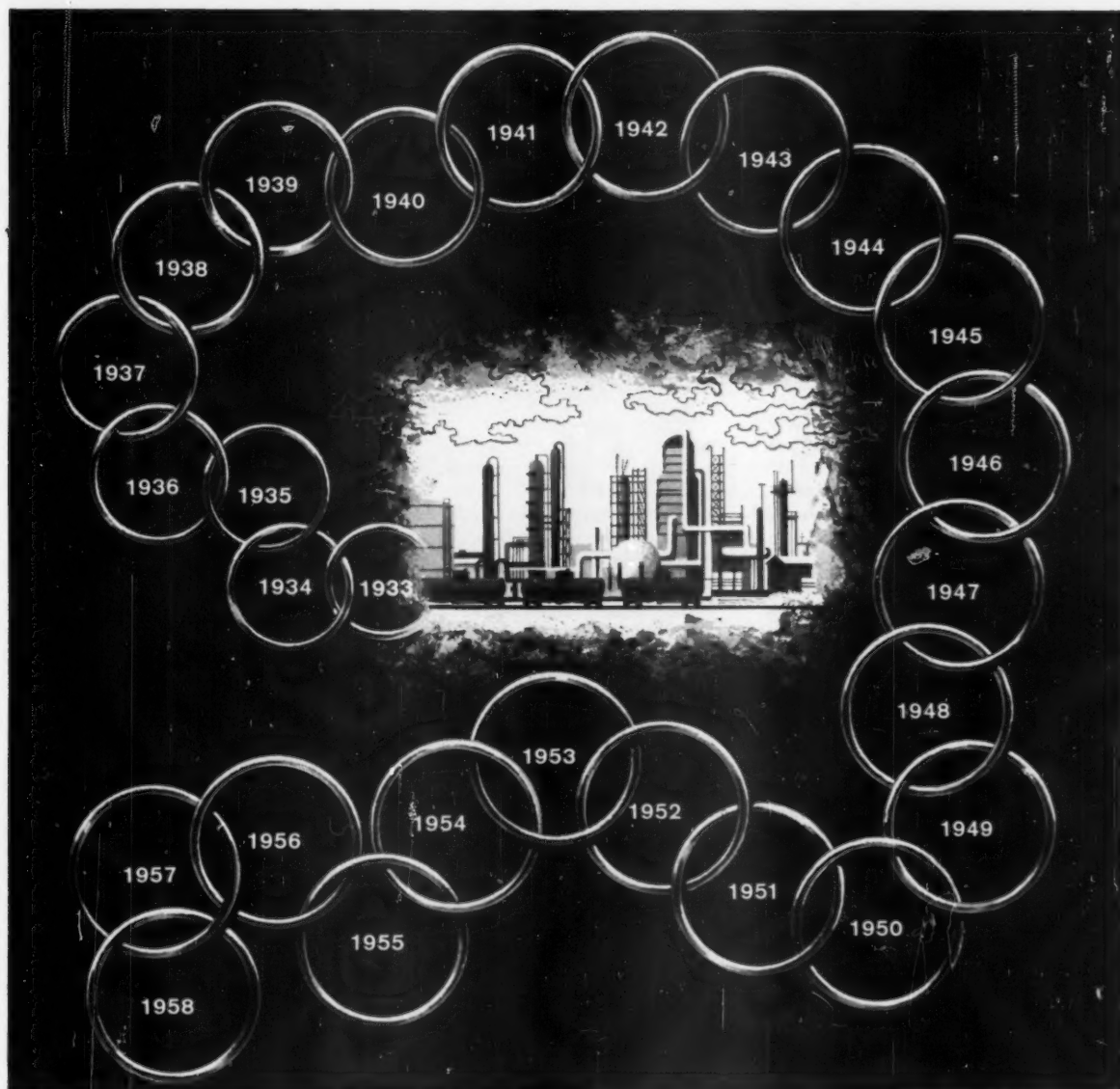
25 major sales credited to one-day promotion

A one-day promotion resulted in the sale of 25 major appliances and a list of 65 "hot" prospects for Kellerman & Co., North Judson, Ind., Skelgas dealer.

The promotion was based on a

Mobile storage units, designed for L. P. gas and utilizing both bulk storage and trailer transport features, have been developed by the J. B. Beaird Co. The tanks are being used in Minnesota to supply LPG for contractors in the highway building program. The unit consists of a storage tank, ranging from 9000 to 14,000 gal. capacity, on running gear, which in turn mounts on a tractor.





The unbroken chain

ONE OUT OF FIVE contract customers has continuously purchased Shell propane from ten to 25 years without interruption.

Shell has been able to achieve this excellent record for one important reason: reliability of supply—it is a long established Shell policy to sell propane only within our capacity to produce.

A Shell representative will gladly show you the advantages in a Shell Propane contract.



SHELL OIL COMPANY



Albany • Atlanta • Baltimore • Boston • Chicago • Cleveland • Detroit • Indianapolis • Los Angeles • Minneapolis
New Orleans • New York • Portland, Oregon • Sacramento • St. Louis • San Francisco • Seattle

DECEMBER, 1958

grand opening and warehouse clearance sale. Ads were placed in the local weekly newspaper for two weeks prior to the day of the sale. In addition, one ad was placed in a high-saturation advertising paper and 1000 handbills were distributed.

Pancakes, sausages, and coffee were offered and were served to 450 persons during the day, despite the fact that the sale followed a week of the worst winter weather in Indiana in years. Registration cards were filled out by 300 persons interested in the door prizes which included a set of silverware, a silver plated table service set, and plastic clothes baskets. The 65 hot prospects were culled from the registrants.

Needle packs and rulers were handed out as free gifts.

On the day of the promotion, seven ranges, four home freezers, three water heaters, two clothes dryers, one freezer refrigerator, one washer, and two heating systems were sold. In addition, two ranges, one water heater, and one complete set of built-in cooking units were sold following the promotion and directly as a result of the promotion.

Owners William Kellerman Jr., Lloyd Hanke, and Dorwith Wobith give a combination of advertising and salesmanship credit for the successful event.

Ronson features butane lighter in outdoor ads

Ronson Corp. is using 2500 30-sheet billboards in 117 cities to feature its Varafume butane-fueled lighter.

The company's first outdoor campaign started on November 10.

The billboard copy and illustrations will also be used in Ronson magazine and TV ads.

Florida county creates LPG examining board

The metropolitan government of Dade County, Fla., created a liquefied petroleum gas installation contractors examining board, thereby placing L. P. gas on the same level with the electrical, plumbing and contracting industries.

It is anticipated this board will be able to offer a good control for those who plan to enter the L. P. gas business and to assist in making metropolitan government a success.

NEWS NOTES

August shipments of gas equipment for residential central heating totaled 12.5 per cent more units than in the same month last year, GAMA announced recently. It was the fourth month in a row that gas central heating shipments ran substantially above 1957's. Further gains for automatic gas water heaters were also revealed. The August figure for gas ranges, however, was still below last year's, although it was the highest for any month in 1958.

Pennsylvania Range Boiler Co., Philadelphia, recently added two new midwestern representatives for its Bradford line of automatic gas clothes dryers and water heaters. J. A. Murphy & Co., Chicago, will represent the company in Illinois, northern Indiana and the eastern Michigan Peninsula area. The Melbar Sales Co., Cleveland Heights, Ohio, has been appointed Bradford representative for Ohio, northern Kentucky including Louisville, and southern Indiana.

Attala Hydratane Gas Inc., a butane business in Kosciusko, Miss., has been granted charter of incorporation listing capital stock of \$80,000.

Charter of incorporation has been granted Carraway Butane Gas Co. Inc., Utica, Mass., gas distribution, listing capital stock of \$15,000.

The Superior Oil Co. has been granted tax exemption for a natural gas liquid processing plant to cost \$5,132,175, the Louisiana State Board of Commerce & Industry in Baton Rouge, La., has announced.

Two L. P. gas transport truck drivers employed by Tuloma Gas Products Co. have been presented safe driving awards. H. H. Marriott of El Dorado, Ark., transport foreman, and George T. Mitchem of Gwynn, Va., were given the awards by J. L. Potter, Tuloma traffic manager, following their completion of one year of accident-free driving.

S. Bradford Rymer, Jr., president of Dixie Products, Inc., Cleveland, Tenn., has been appointed finance chairman of the Gas Appliance Manufacturing Industry for the United States Committee

for the United Nations, it was announced recently by Stanley M. Rumbough Jr., national chairman. The organization is a privately supported citizens organization whose chairman is appointed annually by the President of the United States.

Pete Rhodes Supply Co., Springfield, Mo., has been appointed a distributor of Rheem warm air furnaces and Rheemaire central air conditioning, it has been announced by the home products division of Rheem Manufacturing Co. In its work of distributing Rheem furnaces and Rheemaire central air conditioning, the Pete Rhodes Supply Co., will maintain inventories and a full range of services for the heating and air conditioning contractors in its area.

Star Butane Gas Co., Leesville, La., has been granted charter of incorporation listing capital stock of \$18,000.

The name of the Frying Equipment & Supply Co., distributors of Keating fryers, has been changed to Keating of Chicago, Inc. There is no change in management, personnel or company policies. The purpose of the change in name is to identify the company more closely with its products.

September shipments of gas-fired furnaces and boilers for residential central heating set all-time records, GAMA announced recently. Shipments of gas conversion burners were reported at the highest monthly level in two years. In September manufacturers shipped 107,300 gas-fired furnaces of the forced warm air and gravity types. This was 14.3 per cent more than the 93,900 for the same month a year earlier, and topped the previous high of 106,700 in September 1955. For conversion burners, used in changing heating systems from other fuels to gas, the latest monthly total was 31,200, up 5.8 per cent from 29,500 in September 1957.

Incorporation papers were filed in September in Huntsville, Ala., for Gurley L. P. Gas Co. Inc. Capital stock was listed at \$30,000. Officers and directors are W. G. Williams, president; Ronald I. Milam, vice president; Ann S. Milam, secretary-treasurer; and Iva Mae H. Williams, director, all of Gurley.



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ALL LONG LP gas tanks are manufactured in strict accordance with ASME standards.

Skilled production workers, the most modern manufacturing machinery and rigid inspection throughout the manufacturing processes all mean that you get a tank that you can rely upon.

All tanks are dehydrated and delivered bone dry.

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Fast - Dependable Delivery By Our Fleet of Trucks

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ABOVEGROUND SYSTEMS



UNDERGROUND SYSTEMS

Oklahoma group elects Green its president

J. O. Green, Oklahoma Liquefied Gas Co. Inc., Seminole, Okla., was elected president of the Oklahoma LPGA at its 14th annual meeting in Tulsa on October 5-7.

Mr. Green succeeds Jewel Callahan, Callahan Butane Co., Broken Bow.

Other new officers are: Theodore Fruechting, Fruechting & Fast Co., Weatherford, 1st vice presi-



J. O. Green
Okla. prexy

dent; Edward B. Nelson, Chandler Liquid Gas Co., Chandler, 2nd vice president; and Glenn A. Springer, Oklahoma City, renamed executive secretary of the group.

A growing market for L. P. gas is expected to bring total annual sales by 1966 to 10 billion gal., Paul Endicott, president of Phillips Petroleum Co., predicts.

He said the 1966 estimate is based on forecasts of a 5 per cent annual increase in sales for the next few years from the 6.9 billion gallons sold during 1957.

Leo Winter, state election board secretary, criticized the voting habits of the American people.

"America is supposed to have majority rule," Mr. Winter told more than 200 delegates at the gathering, "but we have minority rule when 40 per cent, 30 per cent and even 20 per cent of the voters show up to vote in Oklahoma elections."

Entertainment for the ladies and a banquet in the Topaz room of the hotel ended the group's 3-day meeting.

Industry safety is topic at Wisconsin meeting

The importance of safety was stressed at the September 19-20 meeting of the Wisconsin LPGA in Wisconsin Dells by Roger Ostrem, member of the Wisconsin State Industrial Commission, but he said industry safety records are not made by writing regulations, but rather by promoting safety through industry education and thorough understanding and co-operation with regulatory and enforcement agencies.

Mr. Ostrem made his talk at the banquet on the evening of the second day. He had been preceded the day before by Izzy Statz, state fire prevention director, and an illustrated safety meeting and panel discussion, presided over by President Miles Barker. Panel members included Jack Clark, Fisher Governor Co., Walter Johnson, LPGA, Sam McTier, Bastian-Blessing Co., Mr. Statz, Andy Tirpak, Weatherhead Co., with Harry Andrews, United Petroleum Gas Co., as moderator.

John Knox Smith, Metrogas Co., spoke on freight rates and how they affect the profit side of the ledger of all LPG marketers.

J. Mott Robertson heads Virginia association

When the Virginia LP-Bottled Gas Association met in convention September 22-23, J. Mott Robertson was elected to the presidency for the coming year. Mr. Robertson is with the Bottled Gas Co. of Lynchburg Inc., Lynchburg, Va.

Also named to office were: Richard A. Saunders, Bottled Gas Corp. of Virginia, Richmond, 1st vice president; R. F. Pecht Sr., Brunswick Ice & Coal Co. Inc., Lawrenceville, 2nd vice president; and W. A. Pearson, Pearson Gas Co., Emporia, secretary-treasurer.

District directors elected are: Richard T. Sloan, George W. Noblett, Felix Dodd, W. E. Newman,

W. Ed. Terry and F. M. DeMoisey. New directors-at-large are J. B. Christiansen and William R. McKnight.

Highlights of the two-day meeting included talks by Charles Williams, economic advisor, Federal Reserve Bank, on a review and forecast of the area's economic growth; Robert Keating, Frying Equipment & Supply Co., on the potential of commercial cooking, and Robert Richmond, U. S. Department of Labor, on the importance of localized activity in connection with civil defense and the LPG marketer's responsibility to become acquainted with his local CD group to keep them appraised as to how the LPG industry is equipped to assist in time of need.

Two panel discussions covered the subjects of sales and operations. In attendance at the convention were 118 members.

T. F. Thompson will lead Pennsylvanians in 1959

One hundred seventy-five members of the L.P. gas industry in Pennsylvania attended the September 9 meeting of the state LPGA and elected T. Frank Thompson president for the ensuing year. Mr. Thompson is associated with the Carlisle Propane Co., Carlisle, Pa.

First and second vice presidents, respectively, are Paul K. Haines, of Allentown, and Russell C. Trexler, of East Greenville. James L. Downall, Greensburg, was named secretary, and John W. Stoner, Rockwood, is the new treasurer.

New district directors are: W. A. Jefferson, Kenneth Remaly, A. E. Patrick, L. F. Finkler, John Cosgrove and Albert A. Buehrig. Directors-at-large are W. D. Cook and E. Sterling Smith.

Tieing in to the popular theme, "Opportunities Unlimited," talks were made by Sol Weill, Geo. D. Roper Corp.; Gordon Jones, UGI, Philadelphia, and Dr. Earl Strong, Penn State University.

New York group discusses heating problems

Early in December the annual meeting of the Jefferson County (New York) LPG association will be held to elect officers for the coming year.

On Sept. 16 the association members gathered at Clayton, N. Y., to hear a talk on heating. The

Empire helps you keep up to 20% more profit



...with the new **HEAT THIEF*** replacement campaign

Want a higher profit margin? Sell Empire units to the big replacement market 12 months instead of 3! Less competitive bidding, less price-cutting, more sales potential mean you'll make a bigger profit. Faster installation, fewer service calls mean you'll keep more of the money you make. Over 7 out of 10 homeowners are prospects for a new Empire heating unit ...and the exciting new "Heat Thief" replacement campaign will turn these homeowners into live prospects for you! Contact your Empire representative, or mail the coupon below, for complete details on how you can use the new "Heat Thief" replacement campaign to get your share of the big replacement market. Do it today!

*A "Heat Thief" is an old, worn-out heating unit that robs homeowners of comfort, money, health and convenience.

EMPIRE STOVE COMPANY Belleville, Illinois

Send me complete information on the new Empire "Heat Thief" Replacement Campaign.



NAME _____

STORE ADDRESS _____

CITY _____

ZONE _____

STATE _____

CUT OUT AND MAIL



COUNTER FLOW FURNACES • HORIZONTAL FURNACES • UP-FLOW FURNACES • WALL FURNACES • FLOOR FURNACES • ROOM HEATERS

speaker, introduced by President Edna Veratt, was E. C. (Buzz) Underwood, representing the Empire Stove Co.

Immediately following was a question and answer period to further discuss heating problems and sales methods.

GAMA appoints new water heater chairman

The Gas Appliance Manufacturers Association has appointed Harry Lasky to the chairmanship of its important water heater division. He was named in October and will serve for the next year, according to Harold Masey, managing director of the association.

Mr. Lasky is vice president in charge of sales for Pennsylvania Range Boiler Co., Philadelphia.

Chas. M. Harrell becomes N. Carolina president

The North Carolina Liquefied Petroleum Gas Association held its annual convention in Durham, N. C., September 14-16. Elected to the presidency for the ensuing year is Charles M. Harrell, Harrell Gas & Fuel Co., Hertford, N. C. He was vice president of the association during the past year.

Other officers elected are: Roger Hall, Lumber Bridge, vice president; J. C. Swanner, Graham, vice

president; Ray Boyette, Kenly, secretary, and Charles Burnham, Charlotte, treasurer.

New district directors elected are: Richard Lee, Charles Gardner, H. V. Fenstamacher, Bill Probeck, and Dal Wooton.

The principal industry speech was made by A. F. Dyer, Phillips Petroleum Co. engineer, whose topic was "Safety and Importance of Industry Standards."

Presiding at the opening session of the convention was W. E. Kirby, outgoing president. Convention chairman was J. G. Blow, and the permanent executive secretary of the association is Robert L. Lowry.

J. Theodore Wolfe named AGA president

J. Theodore Wolfe, president of the Baltimore Gas and Electric Co., was elected to the presidency of the American Gas Association on October 13 in Atlantic City at the association's 40th annual convention.

Other officers included Wister H. Ligon, Nashville, first vice president; Lester T. Potter, Dallas, second vice president; and Vincent T. Miles, Mineola, Long Island, N. Y., treasurer.

W. F. DeVoe elected president of Council

W. F. DeVoe, manager of L. P. gas sales for Phillips Petroleum Co., Bartlesville, Okla., was elected president of the National LP-Gas Council at the Council's board of directors meeting October 10 in Colorado Springs, Colo.

Frank Carpenter, president of United Petroleum Gas Co., Minneapolis, Minn., was elected chairman of the executive committee,



W. F. DeVoe
Council prexy

and James F. Donnelly Sr., assistant to the executive vice president of the A. O. Smith Corp., Milwaukee, Wis., was named treasurer.

Mr. DeVoe moves up from chairman of the Council's executive committee. He succeeds E. Carl Sorby, vice president of Geo. D. Roper Corp., Kankakee, Ill., who becomes chairman of the Council's advisory board.

Mr. Carpenter has served on the Council's executive committee and as chairman of the Dealer Sales Aid Committee.

Mr. Donnelly is past president of GAMA and is now a member of that organization's board of directors and its executive committee. He is also a member of the board of directors of AGA.

Rice will head Colorado group for the next year

At the Mountain States District LPGA, October 5-7, in Colorado Springs, Colo., George B. Rice, Household Gas & Appliance Co., Craig, was elected president of the Colorado group.

R. M. Martin, Mar-Gas Inc., Alamosa, was elected vice president and Elmer Kimball, Eaton Metal Products Co., Denver, secretary-treasurer.

A trade show, held in conjunction with the convention, featured approximately 3000 sq ft of displays.

Speakers scheduled for the meeting were: A. E. Bone, president of LPGA and of Eastern Propane Co. in Malvern, Pa., whose topic was "The Changing Scene and its Effect on our Association"; "You're Bigger than Anything that Can Happen to You," was discussed by R. M. Marberry, sales manager, Gas Utility division, Whirlpool Corp. E. S. Kleinmann, vice president, Dearborn Stove Co., gave his views on "The Backbone of Selling."

Banquet, entertainment, and a ladies' luncheon provided fun for all.

Officers and directors who will serve the North Carolina LPGA during 1958-59 are (left to right): Seated—Ray Boyette, secretary; Roger Hall, vice president; Charles Harrell Jr., president; James C. Swanner, vice president; and Charles Burnham, treasurer. Standing—Bill Probeck, Dal Wooton, Dick Lee, H. J. Dye, J. Earl Parker, R. S. Steele, C. M. DeVane, Charles H. Gardner, and H. V. Fenstamacher, all directors.





Signs for good times

Please accept our best wishes for you and yours for a merry, merry Christmas. And when the holidays are over, our best wishes will still be with you, implemented with the finest facilities, service and L. P. G. you can get.

When the excitement is over be sure to call Tulsa CHerry 2-7261 and take the Anchor symbol as your sign for good times ahead.

ANCHOR

PETROLEUM COMPANY • TULSA

SALES OFFICES: Toledo, Sioux City, St. Paul, Shreveport, Hattiesburg, Gulfport, Savannah, Oklahoma City, Houston, Midland, Long Beach, San Francisco, Seattle, Calgary

Indiana LPGA participates in fire demonstrations

The Indiana LPGA participated in the Indiana Volunteer Fire Department's convention and field day at the Indiana Fair Grounds in Indianapolis on October 4-5.

Commentator for the program, K. L. Taff, designated the participation of the Indiana association as "Operation Turn-Off Valve."

The program was designed to inform the several hundred firemen on the characteristics and behavior of L. P. gas, and to illus-

trate the differences between propane that is ignited and propane that is unignited.

The firemen were given a short course of instructions to acquaint

them with L. P. gas equipment, and to familiarize them with the various valves and safety devices that are incorporated in container equipment.

Participation in the program was by invitation of the Indiana Fire Marshal's Office and was witnessed by several thousand spectators.

Hamilton, American Meter elected AGA director

William G. Hamilton Jr., president of American Meter Co., and chairman of the board of Canadian Meter Co. Ltd., was elected a director of the American Gas Association at the group's annual convention in Atlantic City, on October 13.

A member of the Advisory Coun-



W. G. Hamilton, Jr.
AGA director

cil of AGA, and of the Council of the Pennsylvania Gas Association, Mr. Hamilton is also a member of the New Jersey Utilities Association, Gas Appliance Manufacturers' Association, Liquefied Petroleum Gas Association, Canadian Gas Association, Southern Gas Association, and a member of the executive committee of the Metal Manufacturers Association of Philadelphia.

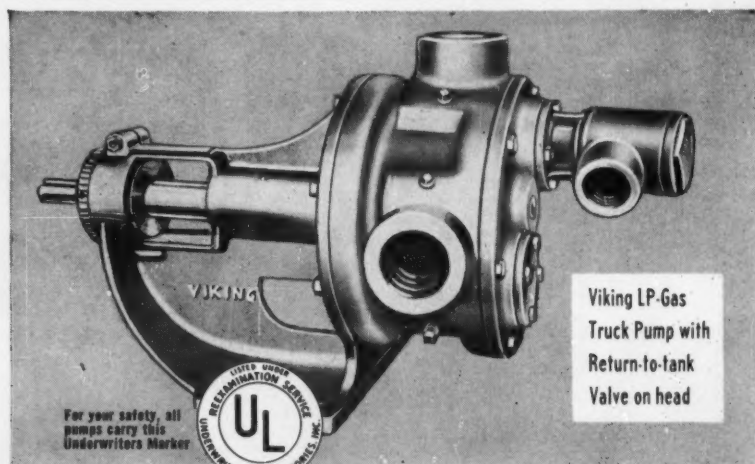
Iowans take their fun in Indian Summer

Tying in with the theme, "Indian Summer Convention," the Iowa LPGA held its 1958 annual meeting on September 12-13 at Lake Okoboji, and the promises of

Talking to Association Secretaries—

There's a great deal of good that can come to your association from published reports of its meetings and election of new officers. But if you don't send us information for a story after the conventions, how can we cooperate?

You are invited to write us all details of your meetings. Your members will appreciate it. Non-members will take notice. Want that?—Ed.



For your safety, all pumps carry this Underwriters Marker

Viking LP-Gas
Truck Pump with
Return-to-tank
Valve on head



SO MANY FLEETS STANDARDIZE ON VIKING LP-GAS TRUCK PUMPS

... for these reasons

- ▶ No leakage. (Features mechanical seal and O-ring gaskets for non-leak operation.)
- ▶ No vapor purging devices. (Fast, positive pumping, using Viking's famous "gear-within-a-gear" pumping principle. Eliminates extra gadgets.)
- ▶ Available with return-to-tank valve on pump head for complete safety and quiet operation.
- ▶ Equipped with integral thrust bearing for continued long life.
- ▶ Available in 3 sizes — 28, 38 and 70 G.P.M.



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VIKING PUMP COMPANY

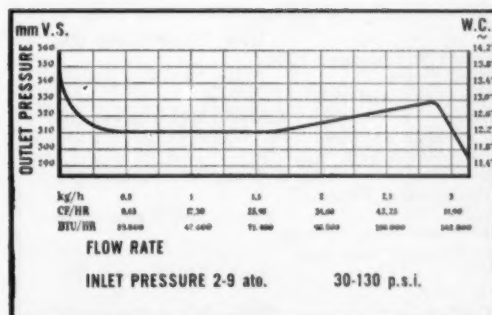
Cedar Falls, Iowa, U.S.A. In Canada, it's "ROTO-KING" pumps

See Our File in Butane-Propane Catalog

The Kosangas System:

The new two-stage regulator and valve

Patented.



The Kosangas-regulator is mounted on the cylinder valve in one movement, without effort or use of tools.

It is automatically locked when in position and supplies gas only if correctly fitted. Turning the gas on or off simply requires a turn of the regulator lever.

Regulator and valve are constructed to give a constant pressure for varying use as shown on the graph. Regulator and valve cannot be tampered with.

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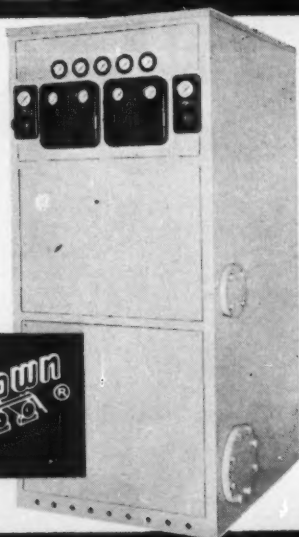
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BUTANE-PROPANE News

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George Epley (left), Texas Natural Gasoline Co. and Charles Russell, president, Rapid Thermogas Co., pose for the cameras at the Iowa LPGA Convention which was held in September.

Convention Chairman W. B. Jenkins that the event would be an outstanding one for those who enjoy swimming and other water sports, golf and other games, was liberally fulfilled.

The principal speakers on the program were George Epley, Texas Natural Gasoline Co., whose topic was, "Looking at the Winter LP-Gas Supply Picture," and John E. Kelderhouse, secretary for District



Discussing finances—probably are Emil Hack (left), L. P. Gas Co., Danville, Ill., newly appointed chairman of the Illinois LPGA, and Ken Worland, Rockford Propane Co., Rockford, Ill., state treasurer of the association. They have just been attending a board meeting of their state group.

4 of the LPGA, on, "Tailgate Safety Talks."

Gene Schrage, Thermogas Co. of Allison, talked on the recently completed first book of the L.P. gas service training course. Gale Colburn and Harlan Williams reported upon their attendance at the St. Louis freight rate hearings.

W. S. Walters, president of the association for the past year, presided at all sessions. Assisting convention Chairman Jenkins was Mike Jerman, program chairman.

Florida association elects O. M. Bailey

The 1958 annual convention of the Florida Liquefied Petroleum Gas Association was held at the Golden Gate Hotel in Miami Beach September 5-6, with outgoing President F. A. Bennett presiding.

Elected to office for the coming year were: O. M. Bailey, Lake



New officers of the Florida LPGA elected during the September convention are (from left to right) Dan McCarthy, vice president; O. M. Bailey, president; and D. R. Nivens, secretary-treasurer.

Worth, Fla., president; Dan McCarthy, Clewiston, vice president, and D. R. Nivens, Ft. Lauderdale, secretary-treasurer.

All previous attendance records were broken with a registration of 414, the previous high being 265, according to Executive Secretary W. E. Jobson.

Among the speakers on the two-day program were: Charles M. Corken, William S. Brenckle, Dr. James L. Brakefield, H. E. Howard and Herbert Philbrick.

The convention committee consisted of O. M. Bailey, chairman, Dan McCarthy and Bill Queen.

The most serious impediment to marriage these days is the difficulty of supporting both a family and the government on one income.



Jack Crossman
Century

Century's Crossman is LPGA representative

Jack Crossman, sales manager, Century Gas Equipment Marvel-Schebler Products division of the Borg-Warner Corp., has been appointed as a representative of the LPGA on the National LP-Council. He will function in the regular LPGA meetings, as well as special committees.

Mr. Crossman joined Century in 1955 as sales manager previous to the company's merger with Marvel-Schebler Products division of the Borg-Warner Corp.

Top this, if you can

Workmen from the gas company installed a new natural gas outlet to a nearby residence, and hooked it up to the stove. The woman of the house had never cooked with gas before, but the gas company men carefully explained how it worked, then left. Within an hour they were ordered to rush back to an emergency at the woman's house. She'd been injured in a terrible explosion and was hospitalized.

The gas experts could find no mechanical explanation whatsoever for the explosion, and later questioned the woman in the hospital. She reported that she turned on the oven, then after about 30 minutes went to light it. The astonished men asked why she waited so long to light it.

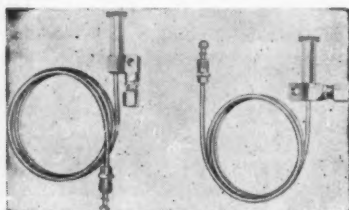
"Well, one of you men told me the gas came from Virginia," she sniffed. "I thought it would take at least half-an-hour to get here."

Courtesy Missouri LP-Gas Talks

WHAT'S NEW

IN PRODUCTS AND TRADE LITERATURE

For further information on items reviewed in this section use the convenient post-paid Readers' Service Cards on pages 85, 86



Pilot thermocouple combination

A higher input pilot-thermocouple combination has been developed by Grayson for use in water heaters, gas central heating equipment and other commercial appliances. It is rated at 400 Btu an hour input. Its non-aerated design eliminates the possibility of clogging with lint. Tube width of the "Pilot 400" is $\frac{1}{2}$ in. Length of the side inlet model is $1\frac{1}{8}$ in. and the bottom inlet model is 1 in. long. The two sectional pilot hood is $\frac{5}{8}$ in. in diameter.

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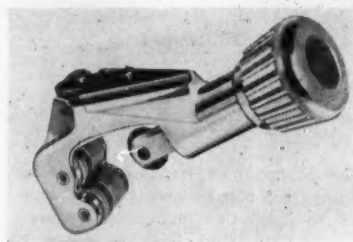


Ford truck line

Ford's heavy and extra heavy trucks in 1959 offer nearly 150 conventional tandem and tilt-cab models designed to meet any heavy duty hauling requirement. Seven

tilt cab tandems are available on special order in gvw's from 37,000 to 51,000 lb, and with gvw ratings of up to 75,000 lb. The company also offers six V-8's, including three "super duty" engines with up to 534 cu in. displacement, for its heavy and extra heavy trucks.

Circle 2 on Readers' Service Card



Tube cutter

A tube cutter has just been introduced by the Imperial Brass Manufacturing Co. The capacity of the "hi-duty 274-FA" has been increased so that it will handle $\frac{1}{8}$ in. to $1\frac{1}{2}$ in. od tubing, hard or soft temper, and a larger cutting wheel is provided which results in faster cutting. This also minimizes burr in cutting hard temper tubing.

Circle 3 on Readers' Service Card

Pilot assemblies

Three new lines of pilot assemblies are announced by Eclipse Fuel Engineering Co. These include extended pilot burners, flame rectification gas ignitor assemblies, and draft compensating pilot. The extended pilot burner assembly is

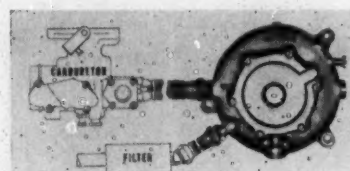
equipped with "variset" adjustable air-gas mixer and blast gate; the flame rectification gas ignitor assembly has atmospheric mixer and injector; and the draft compensating pilot was developed to solve the problems encountered when piloting appliances with varying drafts.

Circle 4 on Readers' Service Card

Smokeless, odorless incinerator

Queen Products division, King-Seeley Corp., recently announced a new Superflame smokeless, odorless incinerator model GI-35 for domestic use. It can be pre-set so that it will burn for any given amount of time up to four hours. The operator is able to open the receptacle door by merely stepping on a small pedal, thus freeing the hands for the handling of refuse.

Circle 5 on Readers' Service Card



Vapor L. P. gas system

Ensign's Model VW two-stage vapor phase L. P. gas regulator is designed specifically for small engine applications where vapor is feasible. It utilizes L. P. gas vapor off the top of the fuel tank. It does not utilize a water circulating system. However, in other re-

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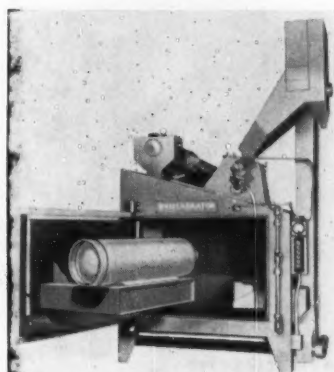
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spects it is very similar to Ensign's Model W L. P. gas vaporizer-regulator. Including both stages of pressure regulation, the first stage regulator reduces pressure from that encountered in the fuel tank down to approximately 4 psi. The final stage regulator reduces the pressure to slightly below atmospheric to assure complete lock-off of fuel when the engine is stopped.

Circle 6 on Readers' Service Card



Cylinder cleaning machine

The Wheelabrator Corp. has announced a machine for cleaning L. P. gas cylinders without the use of compressed air. It utilizes standard components of other Wheelabrator equipment. It is capable of cleaning approximately 15 cylinders per hour when the cylinders are handled manually. All old paint and corrosion is removed down to virgin metal—even in the skirt area. No caustic dip, wire brushing, etc. is required and the cylinders are ready for painting immediately after blast cleaning.

Circle 7 on Readers' Service Card



Sports heater

Silent Sioux's "wigwamer" is 16¼ in. long, 8½ in. wide and 14½ in. high. It is ideal for any

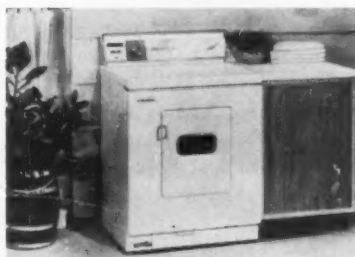
outdoor structure that has only a small area allotted for heating facilities. Compact and portable, it is particularly adaptable to all requirements of the outdoor sportsman. Can be used for cooking and heating. It can be attached to any size tank.

Circle 8 on Readers' Service Card

Backhoes and loaders

The Ottawa Model LX backhoe, which digs to a depth of 12½ ft in any position of a continuous 190° arc of swing, and the Ottawa front end loader, are now available for the Oliver line of industrial wheel tractors. Adaptations have been made for Oliver tractors, Models 550, 770, 880, Super 55, 77 and 88. Engineered as companion tools, the backhoe and loader operate from one powerful hydraulic system. However, either attachment can be mounted and operated without the other.

Circle 9 on Readers' Service Card



Gas clothes dryer

Hamilton Manufacturing Co. announces its gas clothes dryer. It efficiently handles washer loads of 9 lb. Two-cycle timer provides 85 minute cycle with 5 minute cool-off period for normal loads and a 40 minute cycle with 10 minute cool-off for wash-and-wear loads. The "fabri-set" eliminates high-medium-low guesswork. The push-buttons on this panel are marked in actual fabric types. Input: 18,000 Btu per hour. Requires ½ in. gas supply line.

Circle 10 on Readers' Service Card

Gas brooders

National Ideal Co.'s Radiant Crown gas brooders have been significantly improved, according to the company. The multiple burners are the same Thermi-jet, ribbon flame, single port burners that were introduced on the original brooders. For 1959 the burner lips are now annealed in order to prevent corrosion and

maintain tolerances. A longer neoprene braided hose is supplied with the brooder and the support assembly has been changed to eliminate roosting. Another improvement is the redesigning and relocating of the valves to provide improved control.

Circle 11 on Readers' Service Card



Propane diluter

To maintain heat processing operations, space heating, water heating, cooking or refrigeration during periods of fuel cutoff, Sela Corp. of America is now marketing a propane diluter, which automatically supplies accurate mixtures of propane and air, or butane and air. Available for small, medium and large installations, the diluters can be connected to existing gas piping and eliminate the expensive need for dual piping, separate air blowers, inspirator mixers, or the like.

Circle 12 on Readers' Service Card

Evaporative cooler

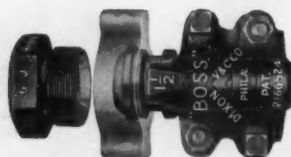
The Arkla-Servel evaporative cooler (Model TG-10 and Model TG-15) are designed specifically to match the quality and long life of the Arkla-Servel absorption refrigeration units. These coolers are of the induced-draft type and adequately handle the condensing requirements of Arkla-Servel residential air conditioners with consideration for the heat dissipation rate, range, and approach to design wet bulb temperatures encountered for absorption-type equipment.

Circle 13 on Readers' Service Card

Small appliance controls

Ease of installation is a major feature of a line of water heater thermostats and controls for small gas heating appliances introduced by Minneapolis-Honeywell. Through use of a built-in pressure

***Strongest, Safest
Connections...for
All L-P Hose!***



"GJ-BOSS" STYLE X-34 GROUND JOINT FEMALE COUPLINGS

Unequalled in strength, durability and safety! That's why more and more "GJ-Boss" Couplings are being used on hose handling L-P Gas . . . at bulk plants . . . on carloading rigs . . . and other installations. All parts are steel or malleable iron, thoroughly rust-proofed. Furnished with super-strong "Boss" Offset and Interlocking Clamps. Ground-joint union between stem and spud forms leakproof, trouble-free seal. Sizes 1/4" to 6", inclusive. Also available in washer type, and with companion "Boss" Male Couplings. Stocked by Manufacturers and Distributors of Industrial Rubber Products.

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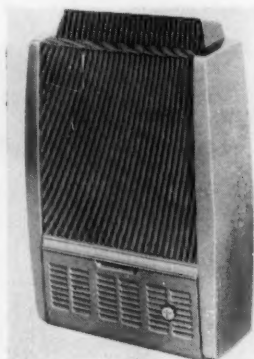
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regulator, need for separate piping between regulator and control device is eliminated. The factory-mounted regulator improves ignition performance and allows unregulated pilot gas operation. Available for small appliances are a gas-cock Pilotstat with pressure regulator, a gas-cock safety control with snap-action remote bulb thermostat and a 24-volt manifold.

Circle 14 on Readers' Service Card



Radiant heater

Temco Inc. announces its "pin-up" radiant gas heater. The modern styling of this unvented heater is enhanced by a two-tone porcelain enamel finish and anodized gold trim. The "control center" is accessible from the front for ease and convenience in temperature selection. The radiant is made of a high-temperature, non breakable, stainless steel alloy that glows red in only two seconds while the cabinet top and sides remain touch-cool. It attaches to the wall quickly with only four screws.

Circle 15 on Readers' Service Card

Torch assembly; five tips

Mutual's No. 6 torch assembly provides five tips which range from large blow torch to fine pointed flame. Each tip has complete orifice and air mixing chamber. Torches operate on full tank pressure or with regulator. Tips provide heavy duty flame, high velocity flame, broad flame, pointed flame, and small pointed flame. They may be purchased individually or as part of assembly.

Circle 16 on Readers' Service Card

Mechanized filing unit

A large-capacity Kard-Veyer mechanized filing unit, designed specifically to simplify and speed office operations requiring refer-

ence to large number of index cards, records, master punched cards and the like, has been announced by Remington Rand division of Sperry Rand Corp. The filing machine is offered in four standard models which may be modified as to height, width, or both, to suit customer requirements.

Circle 17 on Readers' Service Card



Stock tank heater

The New Thieman division of Green Colonial Inc. has introduced an L. P. gas tank heater to provide a temperature controlled water

supply for livestock. It fits all sizes and types of stock tanks. Designed so that the cover prevents down drafts. Equalized pressure in the heater eliminates flame being put out by wind, rain or sleet. An in-shot gas burner housed in a large capacity heating chamber has rated capacity of 12,000 Btus.

Circle 18 on Readers' Service Card

Square drive tools

Lowell Wrench Co. announces a 1/4 in. sq drive ratchet handle and socket set. The interchangeable sockets are available in the conventional 12 point sizes, as well as the combination or 10 point sizes. Socket set SV10-6 includes six 1/2 in. sq drive 10 point sockets fitting 12 nut sizes (6 hex and six square) together with a 10 in. long reversible ratchet handle.

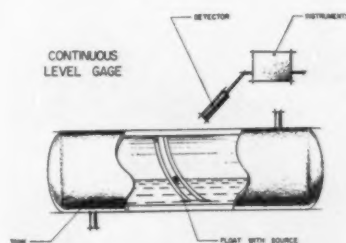
Circle 19 on Readers' Service Card

Industrial flowmeter

An industrial gas flowmeter is announced by Rotron Controls Corp. Based on the "vortex-velocity" principle of flow measurement, it totalizes 10 to 100 cu ft

of gas per minute, at line conditions, representing 1 to 10 million scf per day at 1000 psig. It is entirely self-contained, non-electrical, accurate to 1/2 of 1 per cent of indicated reading. Constructed of stainless steel for 1500 psi working pressure, it will handle many types of gases.

Circle 20 on Readers' Service Card

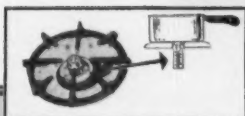


Continuous level gauge

Radiation Counter Laboratories' continuous level gauge measures the level of liquids in totally enclosed containers of any size and dimensions with accuracy to a few hundredths of an inch. Continuous readings are provided in depth or volume. A small radioactive source contained in a float follows the level of liquid along a

it takes.... *Enterprise*

Perfect,
"the burner with a brain"



G-18364-5-CP

to offer so generous a floor plan!

No down payment is required when you floor plan Enterprise gas ranges. There are no charges of any kind for the first 90 days. And, only one-half of one per cent on the balance outstanding is charged from 90 up to 180 days.

This generous Enterprise floor plan gives you time to sell at the profit you should have. And, you have something extra good to sell: non-rust porcelain finish inside and out, one-piece all-welded chassis, Perfectrol automatic top burner, Kitchen-Mated color panels.

A generous cooperative advertising allowance is available to help get the Enterprise story to your prospects. Ask your Enterprise-ing salesman about it.

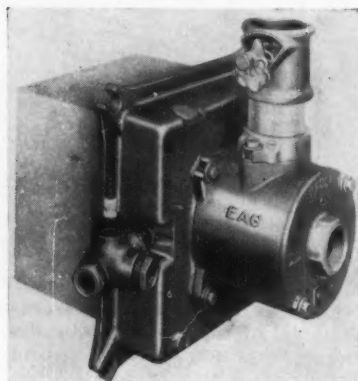
PHILLIPS & BUTTORFF CORPORATION

Nashville, Tennessee

... in our 100th year

path predetermined by guide lines placed inside the tank. Radiation emitted by the source is detected by a scintillation detector located outside the tank. Changes in the level of the liquid cause changes in the strength of radioactivity detected. This change is then calibrated in linear distance or volume.

Circle 21 on Readers' Service Card



Excess air gas burner

An excess air gas burner for sealed-in firing in industrial furnaces, kilns and other heat processing equipment has been developed by Hauck. The burner produces an exceptionally stable flame even with 1000 per cent or more of excess air. The burner nozzle and body are of heat-resisting alloy; the tile is of super refractory.

Circle 22 on Readers' Service Card

Redesigned water heaters

Bradford automatic gas water heaters have been restyled. Swirl baffle, super-speed recovery, and a new louvered door, are important developments in the model's redesign. Exposed floor openings have

been eliminated in the heaters, thus eliminating the problem of linting. The models have 2 in. fiberglass insulation for greater heat retention, and Robertshaw-Fulton controls. Both series come in 20, 30 short, 30 tall, 40 and 50 gal. capacities. The deluxe also comes in the giant 75 gal. size.

Circle 23 on Readers' Service Card

Range line introduced

A new line of Florence gas ranges is being introduced by Geo. D. Roper Sales Corp. Five of the models feature a newly styled "trim-line" back panel, incorporating an electric timer alarm-time clock and a tubular incandescent lamp. Three 36 in. models with ovens a full 20 in. wide are offered. Extra wide 25-in. ovens in all the 30 in. models are large enough to roast a 50 lb pig. A 20 in. rangette completes the Florence lineup.

Circle 24 on Readers' Service Card

Temperature correction rule

A temperature correction slide rule has been designed by Ten-Brook. To work simply set an arrow to the temperature of the propane. Set a hair line on gallons delivered on scale "B." Directly opposite on scale "C" read the corrected gallons. The rule is calibrated for fills from 200 to 1000 gal. on, then by dropping one zero it reads from 20 to 100 gal. It is 12 in. long and made of hard wood for long life.

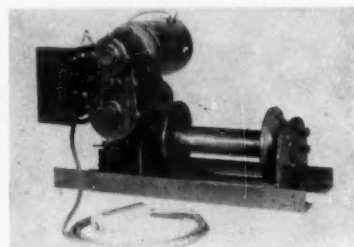
Circle 25 on Readers' Service Card

Oven control

Wilcolator Co. has recently introduced its Model X improved gas oven control. It has a temperature range of 250-550 degree F, plus broil. It is rated at 154,-

400 Btu per hr on L. P. gas. The Model X offers a choice of four different outlet casting positions, requires a minimum of space and makes special fittings unnecessary. The centerline dimension is such that it eliminates any need for flattening or lumping the manifold.

Circle 26 on Readers' Service Card



Portable winch

A portable all-purpose winch powered by car or truck battery, that lifts 2500 lb and pulls 5000 lb, is announced by City Engineering. It weighs 60 lb, and is 27 in. long by 12 in. wide by 14 in. high. Drum speed is 32 rpm, and drum capacity 150 ft of 1/4 in. cable. Other features include stress proof shafts and gear ratio of 175 to 1, sealed gear housings, constant pressure brake when free spooling cable, and 10 ft remote control cable with forward and reverse action.

Circle 27 on Readers' Service Card

2-way packless solenoid valve

The Automatic Switch Co. has developed a new high pressure 2-way packless solenoid valve for controlling air and gases to 2500 psi, and liquids to 1800 psi. The valve body and operating parts are of stainless steel, eliminating many corrosion problems. Tight seating of both liquids and gases, without closely fitted parts requiring constant adjustments, the valve is suitable for low temperature-high pressure applications.

Circle 28 on Readers' Service Card

Check valve

Kepner Products Co. announces improved "kep-o-seal" spring-loaded hydraulic and pneumatic check valves. Engineered and tested to withstand terrific shock, they retain positive leak-tightness, positive action at low pressure, full flow with low pressure drop, freedom from vibration and chatter, long life and easy maintenance.

GENERAL L-P GAS TANKS

20 lb.—40 lb.—60 lb.—100 lb. Cylinders

Complete Line of Accessories for Single or Double Hook-ups . . . Regulators—Valves—Racks—etc. Everything that is needed for complete Bottle Gas Installation.

★ Send for full details today.

General Processing Corporation

Main Office and Factory: Quincy, Michigan

West Coast Division:

10854 E. Central Ave., El Monte, California



nance with maximum safety. There are six standard dryseal pipe and JIC tube sizes and 12 connection combinations, all available from stock.

Circle 29 on Readers' Service Card

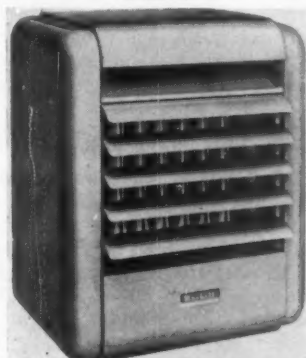


Year 'round comfort

"Command-aire" series of furnaces, including basement and vertical models, have been designed to provide gas heating and to make provision for the addition of air conditioning equipment when desired to make them integrated year 'round comfort units. A single control serves to switch the home comfort system from winter heating to summer cooling. Bryant calls this operation "robo-trol." Command-Aire controls match furnace air de-

livery to ductwork to increase or decrease the volume of warm or cool air desired at any time.

Circle 30 on Readers' Service Card



Unit heater

Nesbitt announces a unit heater which is lighter in weight throughout the ten models ranging from 25,000 to 250,000 Btu/hr. For instance, the 35,000 Btu unit weighs 66 lb. Controls are located at the outside rear of the unit for easy access, the motors in all size units are directly connected to the propeller fan and there are no internal starting switches to get out of order.

Circle 31 on Readers' Service Card



Combination washer-dryer

Whirlpool Corp. offers a combination washer-dryer. Cold, warm, medium or hot water can be selected for the wash cycle and the single-dial control provides for a choice of either warm or cold rinse water. Drying temperatures include high, medium, low, delicate and air.

Circle 32 on Readers' Service Card

Gauge protector

A gauge protector to protect gauges from over-pressure for actuation from 5-400 psi is now offered by Circle Seal. Designed for gas systems, and available for

BUTANE • PROPANE

BEACON

PETROLEUM COMPANY

P. O. BOX 2100 • PHONE LUther 5-5553 • TULSA, OKLA.

Season's Greetings

PHOTOGRAPH BY F. P. G.

for leakproof, pressure-tight connections



At Industrial, Automotive,
Hardware, Plumbing Jobbers
RADIATOR SPECIALTY CO.
Charlotte, North Carolina



NEW DRILL CASE

For the Gas Serviceman

- Holds 41 drills — sizes 40 to 80.
- Each thumb drill has size stamped on handle in sequence.
- Each drill fully protected. Cannot break in case.
- Servicemen can carry in hip pocket. All metal — compact.
- Set will take care of general servicing requirements.

Original Manufacturers of Conversion
Materials and Special Tools Serving
the Gas Industry for Over
35 Years.

Write for Catalog

ANDERSON and FORRESTER
3563 LARIMER STREET, DENVER, COLORADO

liquid gas systems, the system provides in a single unit all characteristics necessary for protection of gauges and operating personnel. The 1100 series gauge protector valves overcome the o-ring break-away friction problem characteristics of piston type units.

Circle 33 on Readers' Service Card

Manometer check valve

A manometer check valve which prevents loss of indicating fluid under any overrange condition has been developed by the Meriam Instrument Co. It is suitable for pressures up to 500 psig and for use with all manometer indicating fluids. Measuring only 3 3/4 in. long and 5/8 in. in diameter, the valve is suitable for use on single-tube or on each tube of multiple-tube manometers. Connections are 1/4 in. NPT; female at top and male at bottom.

Circle 34 on Readers' Service Card

TRADE LITERATURE

"LPG and You" booklet

"LPG and You" published by the Marvel-Schebler-Century Products division of Borg-Warner Corp., is a 24-page booklet loaded with factual information and illustrations. There are diagrams of a complete LPG motor fuel system, conversion instruction, compression tests, cold manifold operation, installation instructions and electrical circuit wiring. Complete data on the safety, economy and availability of L. P. gas is included.

Circle 35 on Readers' Service Card

Two stage regulator brochure

Bastian - Blessing Co.'s "hi-lo" two-stage regulator outfits are fully described in the company's new L-417 brochure. Included in the brochure are handy guide charts for sizing pipe or tubing between the second stage regulator and the appliances. A full-page schematic drawing of a typical two-stage installation shows details of both the inside and outside mounting of the second stage regulator.

Circle 36 on Readers' Service Card

Compressor information

An eight-page bulletin covering Joy Manufacturing Co.'s complete line of heavy-duty, low-pressure compressors has just been published.

Specifications on three models ranging from 756 to 7392 cfm and a detailed sectional drawing are included. Also included is a complete rundown with illustrations on all the vital parts and features.

Circle 37 on Readers' Service Card

Carburetion booklet

Just off the press and available upon request is a new booklet prepared by Ensign entitled "This Business of L.P. Gas Carburetion." While it is written and illustrated primarily for new installers of LPG carburetion, it also contains much valuable information of direct benefit to firms already engaged in the carburetor business.

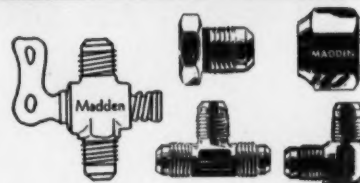
Circle 38 on Readers' Service Card

Sensing device literature

A bulletin describing the advantages of diaphragm temperature sensors for use in home and commercial appliances, is available from Robertshaw. The units are said to answer the appliance designers' need for low cost, efficient temperature control up to 650°F.

Circle 39 on Readers' Service Card

MADDEN MEANS DEPENDABILITY



TOP QUALITY FITTINGS AND ACCESSORIES



including
**WIMCO TOOLS
FLARE TOOLS
TUBE CUTTERS
BENDERS, ETC.**

LARGE
STOCKS

QUICK
DELIVERY

LOW
PRICES

MADDEN BRASS PRODUCTS
COMPANY
AURORA 3, ILLINOIS, U.S.A.
EXPORT: Ad Aurora 85 Broad St., New York, N. Y.

BPN

the trade

HERBERT L. BAILEY has been named Missouri sales representative for the L. P. gas and anhydrous ammonia equipment sales division of the J. B. Beaird Co. Inc. He has been associated with various segments of the L. P. gas industry for many years, most recently serving as sales representative for Dallas Tank Co. He will be headquartered in Sikeston, Mo.



J. H. Williams
Weatherhead



H. L. Bailey
J. B. Beaird

JAMES H. WILLIAMS, formerly sales manager of the Weatherhead Co.'s L. P. gas equipment division, has been named general manager of that division. Mr. Williams joined the Weatherhead Co. in 1949 as manager of southwest L. P. gas equipment sales operations and in 1956 became sales manager of the L. P. gas equipment division. In his first charge of duty, Mr. Williams appointed GEORGE E. TANKER to his staff as chief engineer. Mr. Tanker will be responsible for all service and engineering matters pertaining to Weatherhead's complete line of L. P. gas cylinders and equipment and anhydrous ammonia hose and fittings.

The appointment of two new regional sales managers and one new branch manager is announced by Minneapolis-Honeywell Regulator Co. R. B. GRANT has been named manager of the Rocky Mountain region and J. T. PITTS has been appointed to a similar post in the Southwest region. Mr. Grant, former manager of the com-



acceptance

At the grocery, the drug store, the filling station . . . everywhere your prospects go they see Reznor gas unit heaters in action. "Time", "Newsweek" and 15 other publications . . . no matter what your prospects read, they can't miss Reznor advertising. It's no wonder that Reznor . . . by far the world's largest-selling gas unit heater . . . is the one unit heater your heating prospects all know and accept.

ACCEPTANCE—just one of many reasons why Reznor dealers make more sales . . . and more money. Ask your Reznor distributor for the complete story.



REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED
UNIT HEATERS

Reznor Manufacturing Company, 4 Union Street, Mercer, Pa.



ONLY the
KEATING TRUMP FRYER
is UNCONDITIONALLY
GUARANTEED to out-
perform **ALL** other
FRYERS in every
single respect . . .
or your **MONEY BACK!**
YOU ARE THE JUDGE!

KEATING of CHICAGO INC.

1210 West Van Buren Street • Chicago 7, Illinois



**SELL ONE...
AND IT SELLS
ANOTHER**

**SUBURBAN NOVENT
and
DYNAVENT
—GAS HEATERS—**



These revolutionary gas heaters are their own best salesmen.

Take one look at the features and you'll see why and how they sell themselves, as one satisfied customer tells another.

FEATURES

Easily installed in a window (just like an air conditioner) or outside wall • Fully vented and need no flue or chimney • Burn no room air • Completely automatic with either built-in or wall thermostat • Forced warm-air circulation for even heat, floor to ceiling.

SAVE UP TO 30% IN FUEL COSTS

Approved by AGA, Leading Utilities and LP-Gas Marketers.

For complete details write to Dept. BP-1258

SUBURBAN APPLIANCE CO.

GENERAL OFFICES — WHIPPANY, N. J.
FACTORY — DAYTON, TENN.

pany's Los Angeles branch office, succeeds E. A. THOMPSON, who has been transferred to Los Angeles on a special sales assignment. Mr. Pitts succeeds R. L. MALLORY, recently appointed sales manager of Honeywell's Industrial Products Group in Philadelphia. Named to succeed Mr. Pitts as Houston branch manager is C. D. ADAMS, since 1952 commercial sales manager at the Houston branch office.

J. ED WARREN has been elected as chairman of the executive committee and member of the board of directors of Cities Service Co. In accepting his new post, he resigned as senior vice president of the First National City Bank of New York, with which he has been associated since 1953. He assumed his duties with Cities Service on November 1.

CHESTER L. MAY was elected a chairman of the board of directors of Arkla Air Conditioning Corp. at a regular meeting of the board. He retired recently as senior vice president of Lone Star Gas Co. At the same meeting the board elected ROBERT K. ESKEW a vice president. Mr. Eskew is director of research, development and engineering.

WILLIAM BRUCE GRANT has recently joined Pan American Fire & Casualty Co. as regional safety engineer and will live in Montgomery, Ala. He is assuming the duties of J. C. MILLER JR., who has been promoted to production manager for the State of Florida. Pan American Fire & Casualty Co. has been, for several years, an advisory member of the insurance committee of the LPGA.

Six major administrative changes in its commercial division field organization have been announced by Minneapolis-Honeywell Regulator Co. HUGH MACNAIR, who joined Honeywell in 1949 and most recently has been commercial sales manager of the company's Union, N. J., branch office, has been appointed central region commercial sales manager. HAROLD FOX, manager of the commercial division service and installation department at the firm's Minneapolis home office since 1948, has been transferred to Los Angeles to take over the newly created position of Pacific region service and installation manager. Mr. Fox joined Honeywell in 1942. JOHN R. GREEN, St. Louis branch ser-

vice and installation manager since 1955, has been named to the newly created post of service and installation manager of the southeast region. Mr. Green has been with the company since 1950. Named New Jersey branch commercial sales manager is ALLAN R. LESSLAUER, a Honeywell employee since 1951. RUDOLF SALIWANCHIK, service and installation manager in Indianapolis since 1954, will assume similar duties at the St. Louis branch office. LIN L. GRISHAM, with Honeywell since 1954, will succeed Mr. Saliwanchik as Indianapolis branch service and installation manager.

CHARLES RAYSOR has been appointed sales engineer for the Downingtown Iron Works division of Pressed Steel Tank Co., operating out of the division's main office in Downingtown, Pa., and covering southeastern Pennsylvania, southern New Jersey, Delaware, Maryland, North Carolina and Virginia. Mr. Raysor has been with the sales and engineering departments of Downingtown since 1946. Another recent addition to the sales force was made with the appointment of DONALD F. BAUMLER as district sales manager in Buffalo, N. Y.

FRANK COLONNESE has been appointed superintendent of the Bridgeport Thermostat division, Robertshaw-Fulton Controls Co. He formerly was assistant superintendent for the Milford, Conn., manufacturing concern. He joined the organization in 1946 and has served as foreman, production engineer, and in other assignments during the last 12 years.

ROBERT V. MICKELS has been appointed advertising manager of Cribben & Sexton Co. He succeeds T. C. Guenther who resigned last February. Prior to joining Cribben & Sexton, Mr. Mickels was associated with Armour & Co. serving in the dual capacity of advertising supervisor for industrial soaps and assistant brand manager for new products.

JAMES B. BROWNFIELD has been appointed vice president of Wanda Petroleum Co. He has served the company for the past three years as sales manager. Since World War II he has been associated with the petroleum industry and was formally with Texas Natural Gasoline Corp.



CLASSIFIED Advertising

All Classified Advertising payable with order. Copy must reach publisher's office prior to the 1st of the month preceding publication. Address: Classified Advertising Materials, BUTANE-PROPANE News, 198 So. Alvarado Street, Los Angeles 57, Calif.

DISPLAY CLASSIFIED

\$12.00 a column inch per issue. Choice of 18, 14, 12, 10 pt. display type for headings. Set with 1 pt. border. Maximum ad size 3". No cuts permitted. Publisher will set ad for maximum effect in space purchased.

UNDISPLAYED CLASSIFIED 15¢ a word. Set in 6 pt. type without border. \$3.00 minimum charge per insertion. If Blind Box number card of B-P News is used, count as five words.

POSITION WANTED. Undisplayed rate is one half of above rate, payable in advance.

DISCOUNT OF 10% if full payment is made in advance for four consecutive insertions of undisplayed ads.

SITUATIONS WANTED

EXPERIENCED MANAGER LP GAS OPERATIONS, all phases. I can make money for both of us. Prefer participation opportunity or will consider investment. Reply Box 136, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WANTED: MANAGEMENT COMPLETE LP operation. 15 years experience, 12 as manager. Experienced in purchasing, biddings, sales promotion, bulk plant layouts, large piping installations, central heating, air conditioning, carburetion. Age 42. Desire locate Florida. Reply Box 135, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

HELP WANTED

SALESMEN WANTED—SEVERAL AGGRESSIVE men with college training and several years experience selling LPG equipment and/or selling to machinery manufacturers—various locations. Scaife Company, Pittsburgh District, Oakmont, Pennsylvania.

SALESMEN: TO SELL A WELL KNOWN gas water heater to the LP Gas trade. We are reorganizing our distributing set up and have many desirable territories open from the Mississippi River east to the Atlantic Coast. Commission basis only. No objection to non-conflicting lines. Write giving age, experience, lines carried and territory covered to Box 133, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

LARGE EASTERN LPG COMPANY

has openings for experienced LPG plant managers. For confidential interview write: giving experience resumé, to:

Box 132, BUTANE-PROPANE NEWS
198 So. Alvarado St., Los Angeles 57, Calif.

AGGRESSIVE SALES REPRESENTATIVES

IN MIDDLE WEST, NORTH CENTRAL STATES AND SOUTHERN STATES for LPG and NH3 Storage and System sales. Free to travel. Previous sales experience and knowledge of L.P. Gas Industry helpful. State complete background and sales experience in application to: Manager, LPG & NH3 Equipment Sales Division.

The J. B. BEARD CO., Inc.
P. O. Box 1115, Shreveport, La.

BUSINESS OPPORTUNITIES OFFERED

LPG BULK PLANTS. WE SPECIALIZE in selling petroleum properties throughout Midwest. Have number desirable plants for sale. OLE BRODD, PETROLEUM MARKETERS, 605 Produce Bank Bldg., Minneapolis, Minnesota.

FOR SALE—TWO LP GAS COMPANIES in Illinois. Total cash earnings \$82,000.00 annually. Cash earnings after taxes will retire purchase price in 6½ years. Total gallons 2,467,277. Equipment and plants are completely modern. Down payment for both companies \$155,000. Can be purchased separately. Federated Petroleum, Mel Putnam, 3228 University, Madison, Wis.

BUSINESS OPPORTUNITIES WANTED

WANTED TO BUY: PROPANE PLANTS Upper Mid-West, also used tanks 100± to 30,000 gallon size. Reply Box 99, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WEST COAST DEALER INTERESTED in purchasing LP Gas companies east of Rocky Mountains. All replies confidential. Reply Box 134, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

FOR SALE — TRUCKS - TRAILERS

HAUL MORE PROPANE AND LESS STEEL! LOAD AND UNLOAD FASTER! Save the annual Federal tax on trucks that weigh more than 13,000 lbs! Users praise the Nor-Tex 2500 WG Single Barrel Payload Special of 202B X-rayed material and stress relieved. Weighs only 12,890 lbs. completely equipped with High Flow Plumbing, Meter, Hose, Hose Reel, Fire Extinguisher and mounted on cab-forward truck with 108" cab to axle dimension. Increased capacity pump boosts deliveries to 50 GPM. Vapor manifold permits easy simultaneous loading and unloading of twin tanks with either compressor or liquid pump. These popular, carefully engineered and sleek designed Nor-Tex Single and Twin units are produced in four attractive models: The "Standard"—the "Custom"—the payload "Special" and the "DeLuxe." That's not all! Twin units, up to 2000 WG, are mounted on 85" cab to axle. Start hauling more gas and less steel. Do it profitably and in much less time. Phone, wire or write for prices now. NORTH TEXAS TANK CO., Denton, Texas. Phone DUpont 2-5416.

USED PROPANE DELIVERY TRUCKS, 1200 GALLONS W.C. Presently in use and being replaced with larger units. United Petroleum Gas Co., 4820 Excelsior Blvd., Minneapolis 16, Minnesota.

FOR SALE: USED PROPANE TRUCKS. Late Model units ready to go. 1000 to 1600 WG. Also New Units in all sizes. Easy Terms. WE TRADE. White River Distributors, Inc., Ph. 570—Batesville, Ark.

WE SAVE YOU MONEY

BRAND NEW 1959 Chev. 2 speed axle, 8.25 x 20 tires, 1800 WG twin propane tank, Viking pump, Neptune Printer Meter, fire ext., 75' each filler and vapor hoses, ICC lights, piped complete with rear cabinet and controls, READY TO USE. ONLY—

\$636.00 Down and 36 payments of \$181.45 including interest.

2000 WG Twin slightly more. Other sizes tanks, pumps, meters, etc., also available. WE TRADE. IMMEDIATE DELIVERY.

White River Distributors, Inc.
Ph. 570—Batesville, Ark.

FOR SALE—TRUCKS - TRAILERS - Cont.

BULK TRUCK — THE BEST FOR THE Money. 1800 gallon twin, GMC truck, Print-O-Meter, Viking Pump. Looks good, is good. Pictures on request. ONLY \$2950.00. Reply Box 126, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

FOR SALE—USED PROPANE DELIVERY TRUCKS—Ready for service, 1,200 to 1,800 W.G. Financing available. Also New Trucks. Write for list of units and prices. McNAMAR AND CROWLEY, INC., Box 210, Salem, Illinois.

NEW DEALERS

We are in the retail gas business and can help you, as we have helped hundreds of others to whom we have sold delivery trucks. Easy Terms on NEW & USED DELIVERY TRUCKS. WE SAVE YOU MONEY.

WHITE RIVER DISTRIBUTORS
Ph. 570 — Batesville, Ark.

TRANSPORTS: SINGLE OR TWIN barrel; new or used; for lease, or sale on budget or rental sale plan. If you want maximum payload, with all of the latest equipment engineered to fit your truck, roads, and your hauling problem, get the LMC PAYLOADER

Contact Lubbock Machine & Supply Co., Inc., Drawer 1589, Lubbock, Texas

TRINITY BULK TRUCK UNITS

In Stock—Immediate delivery Twin 1400 through 2450 WG your chassis or ours.

There's more sold weather ahead . . . call, write or wire: RAY REEDY

TRINITY STEEL CO., INC.,
DALLAS, TEXAS PHONE FL 7-3961

DELIVERY UNITS: SINGLE OR Twin Barrel. Our prices are competitive. We invite comparison between the equipment and price on our units with any competitive units. We believe we can give you the highest payloads per pound of gross vehicle weight. Write, wire, or phone.

Lubbock Machine & Supply Co., Inc.
Drawer 1589, Lubbock, Texas.

LEASE OR BUY YOUR LPG TANK TRUCK?

New tax law permits you to take additional depreciation on new equipment BOUGHT. Our cash down & monthly payments are LESS than you pay on LEASE DEAL. Call us for facts. Buy with confidence from—

WHITE RIVER DISTRIBUTORS
Ph. 570 — Batesville, Ark.
All Sizes—Immediate Delivery

CLASSIFIED Advertising



FOR SALE—TRUCKS - TRAILERS - Cont.

TRADE WITH A TRADER NEW & USED BULK TRUCK UNITS

I'm CRAZY but I'll TRADE with you on the phone (traveling salesmen cost money—I don't use them—PASS THE SAVINGS on to you & still make money for my wife & kids). Mail me photo of used unit you want to trade-in & tell me size of new unit you want. WHO AM I?

Preston Grace

WHITE RIVER DISTRIBUTORS
Ph. 570 — Batesville, Ark.

(PS. My TERMS & Interest rates are the LOWEST available today).

FOR SALE—TANKS - CYLINDERS

NOW—IMMEDIATE DELIVERY

250# WP Propane Storage Tanks, 1000 'bru 3380 gallon 46" diameter, 2180 thru 7880 gallon 60" diameter, 9050 thru 16,800 gallon 84" diameter. Phone, write, wire, blueprints furnished.

Ray Reedy, Triality Steel Company
Dallas, Texas Phone FL 7-3961.

SKID TANKS

— IN STOCK NOW —

3000 gallon size built especially rugged for oil field use. Write, wire or phone

Lubbock Machine & Supply Co., Inc.
P. O. Drawer 1527
Lubbock, Texas

FOR SALE

Approximately 1250 20 lb. cash and carry I.C.C. cylinders with 2789 valves. Reasonably good condition, \$4.00 each, F.O.B. Boston area.

Suburban Propane Gas Corporation
Route 10, Whippany, New Jersey
R. P. Jackson Tucker 7-8500

WANTED—MISCELLANEOUS

WANTED: USED 100 Lb. PROPANE Cylinders, any amount. Blockton Oil Co., Blockton, Iowa.

WANTED TO BUY

100 each 100 lb. Propane Cylinders, standard weight with POL Valves.

Reply, giving condition and prices, to:

ARC WELDING SUPPLY CO.
467 Bruckner Blvd., Bronx 55, New York

FOR SALE—MISCELLANEOUS

DIXIE SEMI-LOCK HOODS, ALUMINUM and Aluminum coated steel. Wall bracket or free standing. GUARANTEED mechanically for life. \$3.00 up. Dixie Manufacturing Company, Elizabethtown, Kentucky, Box 65. Phone Collect RO-5-9229.

FOR SALE—IMMEDIATE DELIVERY! Eureka Smokehouse Burner Assemblies! For meat smoke houses using bottled gas. Completely automatic. Clean filtered smoke. Distributes heat uniformly. Low gas consumption. Automatic temperature and pilot control. Less product shrinkage. Easily installed. Write for descriptive pamphlet. Eureka Equipment Company, P.O. Box 396, Beloit, Wisconsin.

DECATS MADE FOR TRUCKS, EQUIPMENT. Small or large quantities. Catalog free. Mathews Co., 827 S. Harvey, Oak Park, Ill.

SERVEL GAS REFRIGERATORS

4 to 8 cu. ft. Used Good Condition
Some with top freezers
Send for Prices

FRED A. BROWN COMPANY
170 W. Cumberland St., Philadelphia 33, Pa.
REgent 9-1130 Est'd 1918

NEED A PIPELINE? THREE INCH AND larger diameter line pipe available for sale, rent or lease-purchase. Pipe can be furnished coated and wrapped if desired. Immediate delivery anywhere. Pipe Rental & Supply Company, P. O. Box 1671, Phoenix, Arizona.

FOR SALE: SEVERAL HUNDRED 10,000 BTU Heaters. White porcelain bathroom. \$2.00 each. Fox Cage Farm, Springdale, Arkansas.

BAKER ALCOHOL PUMPS. The sure cure for Moisture problems. Hydraulically designed to pump alcohol into propane filled cylinders. A must for every LP Gas Dealer. Send \$49.95 for pump complete with fittings. Baker Engineering, Malone, N. Y.

FOR RENT or LEASE

6,000 to 18,000 PROPANE STORAGES for rent or lease. Reply Box 116, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

PROFESSIONAL SERVICES

INDIVIDUALLY DESIGNED Ammonia and LP Gas Plants

**H. Emerson Thomas
& Assoc., Inc.**
Westfield, N. J.

PROPANE GAS PLANTS

ANHYDROUS AMMONIA PLANTS

Designed and Installed

PEACOCK CORPORATION

Box 268, Westfield, N. J.

PROFESSIONAL SERV.—(Cont.)

LET MY 30 YEARS OF PRACTICAL "LP" experience assure you maximum profits. Equipment revisions, property evaluations for sales or refinancing, and assistance on legal suits also supplied. Floyd F. Campbell, Management Counselor, 821 Crofton Ave., Webster Groves, Mo.

L. P. GAS INSURANCE

Have your agent write us about our Complete and Comprehensive Coverage for Adequate Limits of Liability at Reasonable and Normal Rates with Specialized Safety Engineering and Claim Service. Available only in Alabama, Arkansas, Arizona, Florida, Georgia, Kansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.

PAN AMERICAN FIRE & CASUALTY COMPANY
Earl W. Gammage, President
P. O. Box 1662 Houston, Texas

EDUCATIONAL SERVICES

LPG HOME STUDY COURSE

A practical course of study for men engaged in service, installation and fuel delivery, and others interested in the basic fundamentals of LP-Gas.

Earle A. Clifford
INDUSTRY TRAINING SCHOOL
Route 1, Farmington, Maine

BUSINESS RECORDS

BUSINESS RECORD FORMS. ALL-WEATHER EZE-SNAP delivery invoices, for use when making LP gas metered truck deliveries. 1000 sets (3 part) imprinted with name, address and telephone. \$18.00 per 1000 sets. Advise make of meter. DEGREE DAY SYSTEMS, Dept. BP WOODSIDE 77, L. I., N. Y.

SERVING 20,000 PETROLEUM COMPANIES over 30 years with petroleum price cards, customer reminder Eze-Stik labels, telephone call—service order—L/P metered delivery invoices. Eze-Snap Service Form. Duralumin ticket holders, Sort-O-Matic Rack, etc. Write us for details, no obligation. DEGREE DAY SYSTEMS, Dept. BP., WOODSIDE 77, NEW YORK.

HAVE MONEY IN THE BANK

This book of collection letters prepared for LP-Gas dealers is the solution to your problem of past due accounts.

- Has 42 model letters covering specific situations.
- Letters designed to collect —yet retain customers' good will.

WRITE TODAY FOR COPY
\$5.00 Postpaid

DEN-T-BOOK COMPANY
P. O. Box 1007 Batesville, Arkansas

BUTANE-PROPANE

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January Through December 1958

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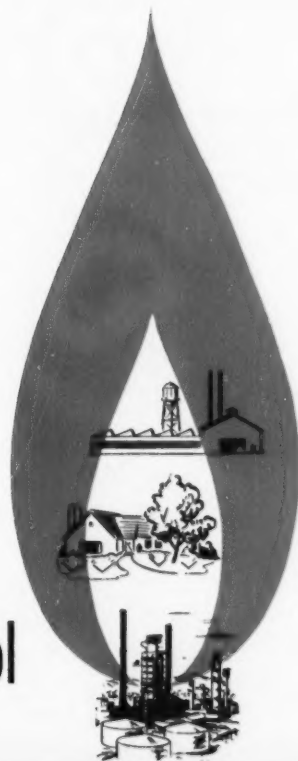
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